

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)	
)	Docket No.
Preparation of the 2005)	04-EP-01D
Integrated Energy Policy)	
Report (Energy Report))	
_____)	

COMMITTEE HEARING ON THE
ELECTRICITY AND NATURAL GAS DEMAND FORECAST

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
1001 I STREET
SACRAMENTO, CALIFORNIA

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Ted Mureau
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Alan Sweedler
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Sacramento Municipal Utility District

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P R O C E E D I N G S

PRESIDING MEMBER GEESMAN: This is actually, I'm told, our 40th workshop for the California Energy Commission Integrated Energy Policy Report Committee.

I'm John Geesman, the Committee's Presiding Member. To my left, Commissioner Jim Boyd, the Associate Member. To my right, Melissa Jones, my staff advisor, and I think Mike Smith, Commissioner Boyd's staff advisor will be joining us shortly.

Today's topic is the Electricity Demand Forecast. I want to go through this in some detail, so, you know, we, we should plan on a fair number of interruptions and questions, because our mission here is to try and gain a better understanding of what the differences are between the staff forecast and the forecast of each of the utilities.

The Committee and the full Commission are limited to the information that's been made available to the public, so we're not going to be able to get into information that is characterized as confidential that the staff or the investor-
//

1 owned utilities may have in their possession. But
2 I think there's a lot of meat for us to, to dive
3 into, or cut into, in trying to gain a better
4 understanding of what explains the differences
5 between the forecasts.

6 I also think it's important, and I would
7 encourage each of the presenters to understand the
8 view. The Committee has no particular preference,
9 loyalty, or investment in a specific forecast
10 methodology. I know when the Energy Commission in
11 the 1970s and 1980s engaged in very detailed
12 electricity demand forecasting, the Commission
13 took on a real pride of ownership in the
14 methodology utilized and, I think, performed a
15 fair amount of missionary work trying to convert
16 the utilities to at least similar methodology to
17 that which we used.

18 That's not the case today. We haven't
19 done this in sufficient detail for a long enough
20 period of time to really have that same sense of
21 investment in a particular methodology. So to the
22 extent that, that any of the presenters feel that
23 one methodology is superior or preferable to
24 another, I'd encourage you to share that with us.
25 We're trying to figure out what types of analytic

1 tools best serve the state's interests, and I
2 think you can help us in that regard by, by making
3 any observations you care to as to the, the value
4 of particular methodologies.

5 Mr. Boyd, do you have any opening
6 remarks?

7 ASSOCIATE MEMBER BOYD: No, thank you.

8 PRESIDING MEMBER GEESMAN: Kevin.

9 MR. KENNEDY: Thank you, Commissioner.
10 Good morning, everyone. I am Kevin Kennedy, the
11 Program Manager for the current cycle of the
12 Integrated Energy Policy Report, and I want to
13 welcome everyone here to the CalEPA building.

14 I want to do a couple of quick
15 housekeeping items, since we're in, we are in a
16 different space than we typically have been. If
17 you're looking for restrooms or water fountains,
18 if you were to go out these doors, down the hall
19 to the left as you're going out, and if you're
20 looking for, you know, coffee, water, other types
21 of snacks, there is something of a cafeteria
22 downstairs. You could go back down, and it's
23 essentially directly underneath where the
24 Commissioners are sitting. So, one floor below
25 us.

1 With those, I do want to do a quick
2 overview of the plan for today. The first thing
3 that we will be doing is staff will be presenting
4 the Demand Forecast that the Energy Commission
5 staff developed. And then we will move from that
6 into a comparison of the staff forecast with the
7 different forecasts that were provided by the
8 various load-serving entities in the state.

9 There will be opportunity, as
10 Commissioner Geesman noted, for discussion as we
11 are going along with that, and then some degree of
12 comment and discussion at the end opportunity, as
13 well.

14 We do want to make it clear that in the
15 context we're working in now, the Energy
16 Commission did direct the various, the state's
17 load-serving entities to file a variety of
18 information on the electricity system in the
19 state, retail price information, demand forecasts,
20 and resource plan data for the 2005 Energy Report
21 cycle. Yesterday, we had a hearing on staff's
22 overview of the resource plans that were held.
23 Today, we're focusing on the demand forecast
24 portion of that.

25 Unlike the resource plan discussion

1 yesterday, where Scott was simply reviewing what
2 the utilities had provided to us, in this case we
3 are also looking at a staff generated forecast, as
4 well.

5 I also want to put this in a little bit
6 of context of a number of the upcoming hearings
7 and workshops in the Energy Report proceeding.
8 Tomorrow there will be a workshop back down at the
9 Energy Commission on the strategic value analysis
10 for integrating renewable resources. Next week,
11 there is a workshop on July 7th. It will be
12 considering electricity issues and policy options.
13 On July 14th, we are having a workshop on natural
14 gas forecast and policy options. On July 25th and
15 26th, we'll be taking a look at implementing the
16 state's loading order and also a look at statewide
17 and region-wide in the wet region resource review.
18 July 28th, we are planning to take a look at
19 transmission issues. Then on August 9th, we will
20 be revisiting natural gas forecast scenarios.

21 Those are not all of the Energy Report
22 workshops that are going on over the next month or
23 so. There's a number relating to other topics
24 that, for example, on global climate change.
25 There's also, in August, a couple of workshops,

1 two-day workshops, or day and a half workshops,
2 one focusing on nuclear issues and one taking a
3 look at the role of -- at clean coal.

4 So keep an eye on the Energy Report
5 website for an up to date listing. There tends to
6 be a certain amount of shifting of dates and
7 specific topics as we move forward and sort of
8 nail down things, but this is a fairly solid
9 schedule at this point. But I do encourage people
10 to keep an eye on the, on the website for any
11 updates and changes and notices which we're
12 typically getting two to three weeks before the
13 workshops.

14 So with that, I will turn it over to our
15 Demand Office staff and Lynn Marshall to begin the
16 presentation on the staff's Demand Forecast.

17 PRESIDING MEMBER GEESMAN: Before you do
18 that, let me invite anybody that, that's in the
19 audience that envisions asking questions of any of
20 the presenters, you're certainly welcome to sit in
21 these chairs closer to us that are equipped with
22 microphones. This isn't the world's greatest
23 venue for interaction, and I want to afford the
24 opportunity to anybody that cares to to sit up
25 here next to a microphone. Now, when I did that

1 yesterday in a better venue, nobody took me up on
2 it until the very end of the day. So I know
3 ultimately you'll get up here, but if anybody
4 would care to, to lead the parade, you're
5 certainly welcome to do so.

6 Lynn.

7 MS. MARSHALL: Okay. Okay. As Kevin
8 mentioned, we're first going to talk about the
9 staff forecast that was prepared -- okay. We're
10 talking about, first talking about the staff
11 forecast that was prepared independently of the
12 data submitted to us by the LSEs, and that's
13 documented in a couple of reports we have copies
14 of, the Staff 2006 to '16 Staff Energy Demand
15 Forecast, and the methodology is detailed in the
16 Energy Demand Forecast Methods Report.

17 This staff forecast is currently being
18 used in a couple of energy report analyses, the
19 2005 natural gas market assessment and also the
20 analysis of renewable energy policy. We have a
21 third report in which we are comparing the staff
22 forecast to the aggregate of those forecasts
23 submitted to us by the LSEs at the planning area
24 level, and that's in the Demand Forecast
25 Comparison Report.

1 Following this workshop we expect there
2 to be some decisions about changes to our
3 forecast, or what should be an adopted committee
4 forecast, or a range of forecasts. And that will
5 have several applications parties should be aware
6 of. Most important, probably, for the IOUs, this
7 will be transmitted to the PUC for use in a 2006
8 procurement process.

9 Some other applications are in the
10 analysis of the PUC's energy efficiency targets.
11 Those targets have been based heavily on technical
12 potential studies that calculate the amount of
13 cost effective energy efficiency that is still
14 remaining, and they rely heavily, for their
15 understanding of current energy use in the
16 marketplace, they rely on our residential and
17 commercial energy end-use models to understand how
18 energy is being used at the end-use level.

19 Some other uses of our forecast can be
20 expected to be in our supply/demand outlooks that
21 the CEC does periodically, the California Gas
22 Report, ISO Grid Studies, and it may also serve as
23 a reference case in the CPUC's 2006 Resource
24 Adequacy process.

25 Methodology, as was mentioned, we are

1 still using our end-use forecasting models in
2 residential, commercial and industrial sectors.
3 We have econometric models for the ag and water
4 pumping, and for, for the other sectors we
5 primarily are doing a trend analysis.

6 From our annual energy consumption
7 forecast for each sector and planning area, we
8 then derive a hourly demand, using historic
9 weather data and load, and hourly load shapes.
10 That gives us our planning area forecast. A
11 number of the applications of our forecast will
12 require more disaggregate data, so we then use our
13 historic data and our sector growth rates to
14 disaggregate the forecast down to retail sales by
15 LSEs that the renewables analysis need, down to
16 the larger LSE level that is needed for
17 electricity system analysis.

18 Some of the major changes from this
19 forecast compared to the last major forecast we
20 did, 2003 to '13, we are now using the Department
21 of Finance 1994 populations forecast -- 2004 --
22 previously we were using the 1998 forecast, so the
23 new DF forecast is using the new census results.
24 They've lowered their fertility assumption, so we
25 have a lower population forecast. You can see the

1 peak line down there compared to the darker blue.
2 It's about a hundred -- one and a half percent
3 lower by 2010.

4 PRESIDING MEMBER GEESMAN: You said that
5 that was driven by a lower fertility assumption.

6 MS. MARSHALL: That's one -- yes, one of
7 their changes.

8 PRESIDING MEMBER GEESMAN: But you've
9 got a higher person per household?

10 MS. MARSHALL: Right. And that, that's
11 the other, the other change is we do some, and we
12 did in the last forecast, increase in persons per
13 household, it's been increasing. However, we've
14 lowered that compared to the last forecast. So
15 though, although we have a higher pop, the change
16 in the persons per household somewhat -- somewhat
17 offsets the lower population forecast. So we have
18 a slightly lower household. Our decrease in
19 households forecast is not as much as a decrease
20 in population.

21 PRESIDING MEMBER GEESMAN: And both are
22 driven by lower fertility assumptions?

23 MS. MARSHALL: Do you want to speak to
24 the persons per household?

25 MR. GORIN: They're driven by both lower

1 fertility assumptions and also the new -- well,
2 the new forecast has actually slight, slightly
3 higher immigration assumptions than the old DOF
4 forecast, so the, the persons per household was
5 derived using half of the, the growth that was
6 seen from 1990 to 2000, because Department of
7 Finance does not provide a persons per household
8 forecast.

9 PRESIDING MEMBER GEESMAN: Oh, so
10 that's, that's our assumption.

11 MR. GORIN: That's, that's our
12 assumption.

13 PRESIDING MEMBER GEESMAN: And, and you
14 were explaining how you had derived that?

15 MR. GORIN: The way, the way it was
16 derived for each county was I looked at the growth
17 from 1990 to 2000, and essentially took half of
18 that increase into account to go into the future.
19 Whereas, whereas last, the last time we did a
20 forecast, we continued that increase at a greater
21 rate.

22 PRESIDING MEMBER GEESMAN: So you
23 assumed a, a secular decline in the growth rate of
24 persons per household, and you applied that
25 decline in growth rate uniformly across all of the

1 counties?

2 MR. GORIN: No, it was, it was
3 established on a county by county basis.

4 PRESIDING MEMBER GEESMAN: But in each
5 instance you assumed a, a decline of, of 50
6 percent in the growth rate?

7 MR. GORIN: Yes.

8 PRESIDING MEMBER GEESMAN: Okay.

9 Thanks.

10 MS. MARSHALL: All right. The other
11 significant changes in the economic drivers we're
12 using, in our previous forecast we used the UCLA
13 statewide forecast and then basically shared that
14 down to a county level. So we had economic
15 projections that were very similar for all, all
16 parts of the state. We've now switched to the
17 economy.com county level personal income and, and
18 value added productions for the industrial sector.

19 So, as you can see, this shows our new
20 personal income projections, and you can see,
21 looking at the historical data, that, for example,
22 the recession did not affect all parts of the
23 state equally. We had a much greater decline in
24 PG&E, hardly any decline in Edison and, and San
25 Diego. So, as a result, PG&E, for example, has a

1 higher forecast projected growth rate now. SMUD
2 has the strongest economic projection.

3 So, in our previous forecast these lines
4 were all pretty much parallel, and as a result we
5 significantly under-forecast the demand growth in
6 southern California because we were assuming there
7 would be a proportionate amount of recession in
8 those areas. Similarly, you can see this is the
9 industrial value added. You can see the PG&E area
10 had a much greater decline than Edison and the
11 other parts of the state.

12 PRESIDING MEMBER GEESMAN: What other
13 projections of economic growth did you look at
14 before selecting economy.com?

15 MS. MARSHALL: There -- is there anyone
16 else? Well, the other, we were also, we had been
17 using Global Insight, which is, I think, the only
18 other institution that does county level
19 projections -- provides county level data, but --
20 and we were using those in conjunction with UCLA.
21 They did not have this kind of regional variation,
22 so I don't know that there's another alternative
23 besides Global Insight and economy.com.

24 PRESIDING MEMBER GEESMAN: And you, you
25 feel that the better regional definition or

1 distinction makes that a better tool to use?

2 MS. MARSHALL: Yeah. Certainly when
3 you're focusing on demand forecasting for regions
4 within the state. We, we've seen the, the error
5 that it caused in the last forecast.

6 PRESIDING MEMBER GEESMAN: And does the
7 economy.com projection go out for a full forecast
8 period?

9 MS. MARSHALL: Yes, it does. They go, I
10 think they go out to something --

11 MR. GORIN: 2030.

12 MS. MARSHALL: -- 2030, yeah.

13 PRESIDING MEMBER GEESMAN: How often do
14 they update that?

15 MS. MARSHALL: They update it almost
16 continually, every month or two. So as they get
17 new, new data they'll re-run their model. So
18 it's, it's really an ongoing dynamic process.

19 PRESIDING MEMBER GEESMAN: Thank you.

20 ASSOCIATE MEMBER BOYD: So you have a
21 greater degree of confidence in this estimate than
22 ever before?

23 MS. MARSHALL: To the extent that any
24 economic forecasts are accurate.

25 (Laughter.)

1 ASSOCIATE MEMBER BOYD: I was looking
2 for that answer. Thank you.

3 MS. MARSHALL: Well, maybe we can come
4 back to that one.

5 And in terms of programmatic
6 assumptions, we have now added the impacts of the
7 recent iterations of building and appliance
8 standards for our residential and commercial
9 sector models. So that has a, that's reducing our
10 energy demand growth. However, we did reduce the
11 effects on peak of the air conditioning standards
12 because of concern that the energy savings don't
13 always -- don't necessarily translate into
14 reductions on peak.

15 We've also are including the impacts for
16 the IOUs of their energy efficiency goals through
17 2008 only, and we've -- also have a slightly
18 higher growth in self-generation based on looking
19 at the applications for participation in the self-
20 generation incentives program.

21 So here's our statewide energy forecast,
22 and you can see the other significant change,
23 which was that 2003, which was the last historic
24 year from which we're forecasting, both
25 consumption and peak were quite a bit higher in

1 that forecast so we have a shifting up in the
2 forecast, there's about three and a half percent
3 on energy, a little more than that on peak. So we
4 have a higher the forecast has shifted up, but
5 lower growth rate because of the standards and
6 other effects I mentioned.

7 MS. JONES: Lynn, can you go back and
8 explain why you didn't reduce the residential
9 consumption on peak?

10 MS. MARSHALL: Tom.

11 MR. GORIN: We, we felt there -- there
12 are some studies out there now, and, and on an
13 energy reduction you get maybe a ten percent --
14 you get the ratio going from a, a ER10 to 13.
15 There are some studies out there in -- from the
16 utilities that indicate that maybe that reduction
17 doesn't transfer at very high, at extremely high
18 temperatures, which would be peak events. And so
19 as kind of a conservative estimate of peak, we
20 decided until we had better information, that we
21 would reduce that value.

22 MS. JONES: Okay.

23 MR. GORIN: There's some concerns that,
24 that air conditioners that are being built to meet
25 the standard measurement process is kind of like

1 cars are built to meet the 55 mile an hour, you
2 know, gas mileage requirement, and they have
3 different mileages, gas mileage at 85 miles an
4 hour.

5 MS. JONES: Thank you.

6 MS. MARSHALL: So again, our use per
7 capita is shifted up based on the higher demand
8 we've seen in 2003. Again, on our peak forecast,
9 slightly higher growth rate at a higher level.
10 The 2003 peak was about, it was about a thousand
11 megawatts higher than forecast.

12 PRESIDING MEMBER GEESMAN: Yeah. Let me
13 ask you, what would it look like if you plotted
14 2004 on that graph?

15 MS. MARSHALL: I think we have, I think
16 the last year in there is 2004. Because we did,
17 we do use the 2004 peak to calibrate here.

18 PRESIDING MEMBER GEESMAN: Okay.

19 MS. MARSHALL: So it's in there, so.

20 So it looks like about the same
21 difference. Peak demand per capita is increasing
22 slightly. Again, that's the effect of the air
23 conditioning part. And this is, we take our
24 planning area forecasts and disaggregate them to
25 match the various control areas, so we take some

1 load out of the PG&E planning area and move it to
2 SMUD. And this shows the demand growth by control
3 area and congestion zones for the ISO, so we see a
4 lot of load growth in the SB 15 in the first five
5 years of the forecast, and also the SMUD control
6 area is a fast growing area.

7 Okay. We're not talking -- we do do, as
8 part of our sector demand forecast, an end user
9 natural gas demand forecast. We're not going to
10 talk about that today, but just to not omit it
11 completely, it's included in our staff reports.
12 It is lower, because gas prices are higher than we
13 projected, and we'll talk about that in detail at
14 the July 14th workshop on natural gas issues.

15 In terms of the changes to our forecast
16 and the comparisons to the forecasts submitted to
17 us, there's a number of issues. And in the
18 interest of bracketing those uncertainties, we did
19 some, some simple parametric exercises to try and
20 quantify the order of magnitude of those issues.

21 So we looked at bearing the population
22 assumption of -- in Edison's submittal they
23 included the statewide population forecast from
24 Global Insight, which was, has about a quarter
25 percent lower growth rate than ours, so using that

1 with on the same staff per person households could
2 -- lowers demand, oh, about a thousand megawatts.
3 On the other hand, using economy.com's fall
4 forecast, they've since revised it, they now have
5 a top forecast similar to ours. But using that
6 increases demand about a thousand megawatts.
7 That's an equivalent to affect, affect to holding
8 our per persons per households concept.

9 Another issue --

10 PRESIDING MEMBER GEESMAN: Holding --

11 MS. MARSHALL: Yes.

12 PRESIDING MEMBER GEESMAN: -- holding
13 your growth rate in persons per household concept.

14 MS. MARSHALL: No. Actually, for this,
15 for this exercise we assumed constant per person
16 -- persons per household for the forecast period.

17 PRESIDING MEMBER GEESMAN: Okay.

18 MS. MARSHALL: And --

19 PRESIDING MEMBER GEESMAN: So no growth
20 rate.

21 MS. MARSHALL: -- the reason -- no, no
22 increase, and, and we did that is we've seen in
23 some of the other, most of the other forecasts,
24 they actually have decreasing persons per
25 household. Which we, you could, you know,

1 extrapolate from this the effect of that.

2 In terms of the accuracy of economic
3 forecasts, well, I don't think anybody's economic
4 forecast predicts a recession, and, of course,
5 they happen, so we know all our economic forecasts
6 are wrong. This shows the relationship between
7 annual change in electricity consumption and our
8 changing gross state product. You see a pretty
9 strong correlation. In terms of where you are in
10 the business cycle, we, our energy consumption
11 forecasts, historically we've seen growth rate
12 about one, one and a half percent. We're
13 forecasting that going forward. But depending on
14 where you are in the business cycle, you may see a
15 couple of year period where you're getting three
16 to four percent growth.

17 Okay. Another assumption that differs,
18 in which the staff forecasts differ from some of
19 the forecasts submitted to us is an assumption
20 about commercial energy intensity, energy use per
21 square foot. We have energy use per square foot
22 decreasing. That's in contrast to history. In
23 the last decade or so we've seen use per square
24 foot increasing as offices become more energy
25 intensive, have more electronic equipment. We

1 have a decrease in part because of the building
2 standards and other efficiency trends. What
3 happens if we hold that constant, that would
4 increase our forecast almost a thousand megawatts
5 by the end of the forecast.

6 If we had increasing use per square
7 foot, which is the assumption in some of the
8 forecasts submitted to us, that would increase our
9 forecast 2,000 megawatts. That's about three
10 percent.

11 PRESIDING MEMBER GEESMAN: Now, let me,
12 let me back you up a bit. Your assumption about
13 declining use per, per square foot is based on the
14 standards?

15 MS. MARSHALL: Well, it, it's a
16 combination of factors are -- before we put the
17 new standards in we had constant use per square
18 foot, so that's reflecting, you know, turnover of
19 equipment, there's some efficiency in use per
20 square foot, even though there's still some growth
21 in, say, office equipment. When we put the
22 standards in, we have declining use per square
23 foot. And that is in contrast to the recent
24 historic trend.

25 PRESIDING MEMBER GEESMAN: And those

1 are, that conclusion is driven by assumptions
2 about equipment standards as opposed to non-
3 residential building standards?

4 MR. GORIN: Well, it's a combination of
5 both the building standards and non-residential
6 air conditioning standards. There's a large
7 decline in interior lighting and exterior lighting
8 due to lighting efficiencies.

9 PRESIDING MEMBER GEESMAN: And that's --
10 that's assumed to take effect in the existing
11 building stock.

12 MR. GORIN: As far as I know, that is
13 triggered by any tenant improvement. So that's a
14 matter of interpretation.

15 PRESIDING MEMBER GEESMAN: But your,
16 your expectation, then, is once a tenant does,
17 does tenant improvements, that tenant is brought
18 under the, the new standards regarding lighting?

19 MR. GORIN: I believe that's correct.
20 And that's an uncertainty in the forecast that you
21 might --

22 PRESIDING MEMBER GEESMAN: And, and you
23 presumably assumed a 100 percent efficiency, or,
24 or compliance with that requirement?

25 MR. GORIN: I would, I would

1 characterize it as about 50 percent.

2 PRESIDING MEMBER GEESMAN: So you did
3 assume a substantial non-compliance?

4 MR. GORIN: We, we -- we did assume a
5 non-compliance. We can, we're open to changing
6 that based on, on information that we receive.
7 But the, the -- in the commercial building
8 forecasting model, we hadn't incorporated the '98
9 building standards or the 2001 or the 2005 in the
10 2003 forecast. So that actually drives,
11 incorporation of those methods we, we finally
12 settled on reduces use per square foot over the
13 forecast period. The new buildings come in at a
14 greater rate and the existing buildings, due to
15 tenant improvements, become more efficient.

16 And one thing that might be pointed out
17 is in the last decade there was a huge growth in
18 office equipment and computers that I think I
19 would argue has tapered off. Our, our building at
20 the Energy Commission just got computer monitors
21 that are 50 percent more efficient than the ones
22 they just replaced. The, the computers are
23 getting faster and able to do more with less
24 wattage, so the late, late nineties internet boom
25 and office equipment boom I think is, is going to

1 be tapering off in the future, and that, that
2 boom's not going to be seen. So that's another
3 thing to take into account.

4 PRESIDING MEMBER GEESMAN: And that's a
5 qualitative assessment.

6 MR. GORIN: That's, that's correct.

7 PRESIDING MEMBER GEESMAN: How, how
8 often, or at what pace do you, do you anticipate
9 tenant improvements take place in commercial
10 space?

11 MR. GORIN: That's not actually readily
12 quantifiable. I mean, it's just a matter of
13 reduction in lighting per square foot per year for
14 the total amount of existing square footage, so a
15 percentage reduction, and I don't have that off
16 the top of my head.

17 PRESIDING MEMBER GEESMAN: Yeah, I, I'd
18 be interested in the slope of, of that decline
19 curve in terms of energy usage, or perhaps it's
20 better, better thought of as the rate at which
21 your standards are assumed to, to come into effect
22 in commercial space.

23 MR. GORIN: We can provide that.

24 MS. MARSHALL: Okay. The final
25 uncertainty for the staff forecast is with respect

1 to the data that's reported to us. The energy
2 consumption sales data that we get from every
3 load-serving entity in the state is one of the
4 fundamental pieces of data for our forecast.
5 Since --

6 PRESIDING MEMBER GEESMAN: I'm sorry.
7 Can I, can I back you up --

8 MS. MARSHALL: Yes.

9 PRESIDING MEMBER GEESMAN: -- on the
10 commercial space question again? What did you
11 assume about the volume of, of commercial square
12 footage, in terms of any increases in the amount
13 of commercial square footage?

14 MS. MARSHALL: Additions are growing at
15 the average of the last ten years.

16 MR. GORIN: We, in each of the service
17 area comparisons and forecast reports we have a
18 comparison of square footage estimates in this
19 forecast, the last forecast. But basically, we
20 assumed that growth, growth in floor space, new
21 floor space additions is going to take, was going
22 to be the average of the 1990 to 2003 additions
23 that we got by county that were provided by F.W.
24 Dodge Corporation for additions, which is now DRI
25 McGraw Hill, or --

1 PRESIDING MEMBER GEESMAN: And you
2 varied that by county?

3 MR. GORIN: Yes.

4 PRESIDING MEMBER GEESMAN: So that
5 you're, you're projecting forward the, the past
6 historical growth rate in commercial square
7 footage by county.

8 MR. GORIN: At the current, yeah, at the
9 current time that's what -- we aggregated the
10 counties to climate zones, so there's five climate
11 zones in PG&E and four in Edison. So where there
12 was, where there has been a lot of growth in the
13 last ten years there's, there's more growth, and
14 where there's been less growth there's less.

15 PRESIDING MEMBER GEESMAN: Okay.

16 Thanks.

17 MR. GORIN: Okay.

18 MS. MARSHALL: This is the historic data
19 that, that's been reported to us as unclassified.
20 And when the utilities report their sales data to
21 us, they identify the economic sector it's in,
22 residential, industrial category, commercial,
23 agricultural. What we've seen since the
24 restructuring is a skyrocketing in the percentage
25 of sales that's reported to us as unclassified,

1 meaning they don't know what economic sector it's
2 in. So it's now approaching 20 -- 18,000 Gigawatt
3 hours. That's about ten percent of non-
4 residential consumption in the state of
5 California.

6 This has been an ongoing problem, and
7 we've worked, tried to work on it at a staff
8 level, but progress has been slow. So we're
9 hoping to raise awareness of this and all parties
10 can perhaps make some more rapid progress on this
11 front.

12 So these are the planning areas that we
13 do forecasts for, so we'll now go through each
14 planning area and compare, present the new staff
15 forecast and then followed by comparison to the
16 forecast submitted to us, and then we'll let each
17 utility discuss their own forecast.

18 So we'll start with PG&E.

19 (Inaudible asides.)

20 MR. GORIN: For our PG&E forecast, this
21 iteration of the forecast is not that much
22 different from the one we did in 2003. The peak
23 and energy forecasts are a little higher because
24 the 2003 starting point is higher. We have
25 discovered that the rebound from the energy crisis

1 was greater than we anticipated it was going to be
2 when we were in the middle of the energy crisis.
3 So there's not much exciting in either the peak in
4 energy forecast differences from the last
5 forecast.

6 The, the per capita numbers, which I
7 thought may be of interest due to some goals that
8 were set at one time in history, are relatively
9 constant. And the projected load factor is, which
10 is a measurement of peak versus the average load,
11 is ever so slightly declining due to more air
12 conditioning. I would argue that the load factor
13 probably for the last period in history has been
14 relatively constant after it declined in the early
15 nineties.

16 PRESIDING MEMBER GEESMAN: You should
17 know that we requested during one of our earlier
18 workshops 30 years of historical load factors for
19 each of the utility service territories. I'm not
20 certain if the supply office staff has conveyed
21 that to you, or if the executive office has
22 conveyed that to you, but it looks like you're,
23 you're well on your way to, to having completed
24 our request.

25 MR. GORIN: I, I am not sure they have

1 the ability to give you the '70 to '80 numbers.

2 PRESIDING MEMBER GEESMAN: Really.

3 Okay. Well, we'll, we'll cross that bridge when
4 we come to it.

5 MR. GORIN: I, I have, I have some of
6 them in a, in a document that I found buried in
7 the bottom of a box in my office.

8 (Laughter.)

9 MR. GORIN: They, they are of the
10 handwritten variety.

11 Our residential forecast is, is higher
12 because you have a higher starting point. The
13 energy growth is lower. We have lower economic
14 and demographic projections, we have a lower
15 population forecast from the Department of
16 Finance, and economy.com has lowered, has a lower
17 expectation of the increase in, in income than the
18 previous UCLA forecasts that we used.

19 PRESIDING MEMBER GEESMAN: On the, on
20 the population, have you compared the DOF
21 population projections with the ABAG or, or the
22 Sacramento Area Council of Government?

23 MR. GORIN: Yes, I have. The, the May
24 2004 DOF projections were lower -- are, are
25 actually, I think, higher than the ABAG

1 projections. I don't have that right off the top
2 of my head. Chris Kavalec, I think, has that
3 information that provided it.

4 What turns out now is that the
5 Department of Census in May came out with a new
6 forecast for the states, and it is now lowered in
7 the DOF population forecast. The, the new
8 economy.com forecast that I just looked at is just
9 slightly lower than the DOF population forecast.
10 But ABAG and all the, all the regional planning
11 areas, SCAG has a higher, is the only one that has
12 a higher population forecast. And I think the
13 SCAG forecast, and the Edison people can correct
14 me if I'm wrong, was done using the old DOF
15 forecast because it was done before the new DOF
16 forecast came out.

17 But I believe all the regional planning
18 agencies are projecting at least a constant
19 persons per household. Some of them are
20 projecting a slight increase and then a decrease.
21 All, all of the local insight and economy.com, the
22 national forecasting groups, project a decline in
23 persons per household and it's based on aging
24 population and other factors.

25 But they've been projecting for the last

1 ten years that California is going to have a
2 decline in persons per household. California has
3 bucked the national trend in persons per household
4 for the last 10 to 15 years, and I'm not convinced
5 that it's going to stop. But right now, there,
6 there's some indication that, that there may be a
7 shift. There's, there's an article on lower
8 persons per household in the central Bay Area, but
9 the larger, you know, families are moving out of
10 the Bay Area into the valley. So all of the
11 regional organizations are projecting relatively
12 constant.

13 PRESIDING MEMBER GEESMAN: So are there
14 differences in assumptions about household
15 formation made between the, the forecasts?

16 MR. GORIN: Between our forecast and the
17 utility forecasts, yes.

18 PRESIDING MEMBER GEESMAN: Actually, I
19 was thinking more of the economist demographic
20 forecast.

21 MR. GORIN: Department of Finance
22 doesn't, I -- I don't think so. I, I think that
23 most of the, the national and global economic
24 groups want California to return to the national
25 norm.

1 Where is it -- boy, this doesn't show up
2 very well. So we have slightly high residential,
3 higher residential peak. The growth rates are,
4 are the same. Just the starting point is higher.
5 The use per household is significantly higher
6 because of actual use significantly has increased
7 since the large drop from the energy crisis. The
8 use per household here is primarily driven by
9 increasing income and increasing household size.
10 I mean, there's a slight increase in household
11 size, but the income is probably a large driver to
12 that.

13 This is a little, graph is a little
14 busy, but I don't know how to put everything on
15 one chart. The top two lines are the two
16 different household -- two different population
17 projections. So you can see the solid, the solid
18 green line is the new DOF projection. In the
19 center, the pink lines, that lower line is our new
20 persons per household assumption. What I tried to
21 point out with the orange dots in that line is the
22 19 -- 1980, 1990, and 2000 persons per household.

23 The intervening years are estimates
24 provided by the Department of Finance in their E5
25 reports. They provide a yearly update of

1 population and household by housing type, along
2 with persons per household by county, using a very
3 detailed method of accounting. We use it, it may
4 provide a false sense of precision, but the census
5 numbers are pretty consistent with, with DOF
6 numbers and the census are, are fairly consistent
7 with each other and they, they indicate over the
8 last 20 years there's been an increase.

9 So I don't, I didn't feel that there was
10 really a, a impetus to create a lower persons per
11 household forecast. And those two variables
12 combine to get you a household forecast that's
13 virtually the same as we had before.

14 The income projections are somewhat
15 lower, and that's a difference of the economy.com
16 projections versus the old UCLA projections. They
17 have a somewhat less rosy view of what's going to
18 happen in the future in PG&E planning area.

19 The non-residential sectors are
20 essentially the same. What we did with
21 unclassified, where the, the large growth has
22 occurred, is we apportioned that according to
23 class, the sales that were actually classified by
24 non-residential sectors. So in the event that the
25 sales, the unclassified sales are actually more

1 heavily industrial than commercial, or vice-versa,
2 we will have a mis-appropriation of historical
3 growth to that sector when we calibrate. And I
4 think you can see it in some of the following
5 charts.

6 Our commercial forecast is growing at a
7 slower rate due to the inclusion of the
8 residential -- non-residential building standards.
9 What you can see here, it's, it's still growing.
10 It's growing at a lower rate than it was in the
11 late nineties. And the same thing with the peak.

12 Commercial floor space estimates in
13 PG&E's service area, or planning area, are
14 essentially the same as they were previously. But
15 commercial use per square foot, and this is, this
16 will sound like a broken record after a while, is
17 projected to decline slightly over the forecast
18 period, where, as you can see, last time it was
19 relatively constant and maybe increasing slightly.

20 Our industrial consumption is
21 projected --

22 PRESIDING MEMBER GEESMAN: Let me back
23 you up, Tom --

24 MR. GORIN: Sure.

25 PRESIDING MEMBER GEESMAN: -- to that

1 last slide. It looks to me like you had to make a
2 fairly significant adjustment between your
3 forecast and 2002 actual.

4 MR. GORIN: That's part of the
5 unclassified problem.

6 PRESIDING MEMBER GEESMAN: Okay.

7 MR. GORIN: That we would like to get
8 resolved at some point in time.

9 PRESIDING MEMBER GEESMAN: Okay. Okay.
10 So that is not, in your view, a problem with a, a
11 flawed commercial forecast previously. It's more
12 of an accounting issue with respect to the
13 unclassified.

14 MR. GORIN: I think, I think it's
15 actually a combination of the accounting issue and
16 this issue, if you look at where we were in 2002
17 and what, what may have -- you know, there was a,
18 there's a dip there that we weren't sure which way
19 it was going to go. So it's, it's a combination,
20 but I think it's more related to unclassified
21 sales.

22 PRESIDING MEMBER GEESMAN: Okay.

23 MR. GORIN: The industrial sector is
24 projected to increase slightly more than it was
25 before, and, and actually, if you look at the, the

1 adjustment down in industrial -- is that right? --
2 and up in commercial, it's --

3 PRESIDING MEMBER GEESMAN: An adjustment
4 down in industrial.

5 MR. GORIN: Right. So we, we also used,
6 incorporated new load shapes for peak for
7 residential and industrial, so that will change
8 some of the assumptions on the allocation of those
9 sectors to peak.

10 PRESIDING MEMBER GEESMAN: Now, on
11 industrial you break that down by whatever they
12 used to call SIC code?

13 MS. MARSHALL: Yeah. We, we have, we
14 used the economic productions and the consumption
15 data for basically a two to three digit -- now
16 it's called the NAICS code.

17 PRESIDING MEMBER GEESMAN: And what
18 sectors would be driving this growth that you
19 project for industrial?

20 MS. MARSHALL: There is a lot of growth
21 in some of the technology sectors, and, as well,
22 less, to a lesser extent, in some of the more
23 traditional manufacturing. One of the assumptions
24 I think in this, in the economy.com forecast, is
25 they're assuming that China re-values the yuan

1 sometime in the next couple of years, and so that
2 gives a boost to industrial production in
3 California.

4 PRESIDING MEMBER GEESMAN: And now walk
5 me through why, why that changes your, your
6 assumptions about heat configuration among
7 industrial customers.

8 MS. MARSHALL: Oh, well, that's a
9 separate issue. We updated the load shapes for
10 residential and industrial, and so it changes the
11 allocation of peak among the sectors.

12 PRESIDING MEMBER GEESMAN: And what,
13 what are those resulting changes among the
14 sectors? You've attributed more peak to some
15 sectors and less peak to others?

16 MS. MARSHALL: There's --

17 MR. GORIN: Yes.

18 MS. MARSHALL: -- more peak to
19 commercial?

20 MR. GORIN: It, it varies by utility.

21 PRESIDING MEMBER GEESMAN: Okay.

22 MR. GORIN: We can, we can provide that.

23 PRESIDING MEMBER GEESMAN: Okay. I, I'd
24 appreciate that.

25 MR. GORIN: And then -- do you want to

1 talk to this? This is the, the -- UCLA provided
2 value shipments, and economy.com now has value
3 added, which is a slightly different measure of
4 the same thing.

5 PRESIDING MEMBER GEESMAN: Supposed to
6 be, anyway.

7 MR. GORIN: And these are just the
8 projections and how they relate to the history
9 that was provided.

10 These are the minor other sectors, the
11 agricultural and water pumping sectors increasing
12 due to anticipated, you know, greater increase in
13 water pumping requirements and lower, lower ag
14 rates. And the peak configuration of that.

15 And these are the planning area level of
16 price forecasts we used. I think if you take a
17 picture of this graph in your mind, it'll look
18 like all the rest of them. Prices go down, income
19 goes up. That's what the forecasts are for.

20 PRESIDING MEMBER GEESMAN: The sun keeps
21 shining.

22 MR. GORIN: Yeah.

23 PRESIDING MEMBER GEESMAN: And how were
24 these derived?

25 MR. GORIN: They were, the utilities

1 submitted -- all, all the LSEs and the municipals
2 submitted price information to our electricity
3 supply office, and they projected, through their
4 modeling, these prices at a -- and these are,
5 these are a combination of PG&E plus municipal
6 plus LSE prices.

7 PRESIDING MEMBER GEESMAN: So it
8 incorporates their assumptions.

9 MR. GORIN: It incorporates their
10 assumptions. And, and some of the, some of the
11 data was taken from a FERC filing, so some of it's
12 public information.

13 PRESIDING MEMBER GEESMAN: But as a, as
14 an example, does it incorporate our staff's gas
15 forecast? Or, or PG&E's assumed gas prices?

16 MS. MARSHALL: This would be using
17 PG&E's assumed gas prices.

18 PRESIDING MEMBER GEESMAN: Okay.

19 MR. GORIN: That's all on, on our
20 forecast. This part is a comparison to the PG&E
21 forecast that they submitted. And I need to note
22 that you have an errata sheet for our comparison
23 report. I have to admit I got confused with our
24 confidentiality regulations, and forgot which --
25 neither one of the peaks that are in either of the

1 reports are confidential, but one includes losses
2 and one doesn't. And the new one is, the new one
3 is the net peak. It doesn't change the results a
4 whole lot. I just put the wrong table in the
5 wrong graph.

6 Our, our forecast for the PG&E planning
7 area and PG&E's forecast are what I would --
8 fairly close together, almost, almost you would
9 consider too close. They were done in completely
10 different ways. They're within two percent of
11 each other by 2016. They're within approximately
12 one percent. There's a difference in base year
13 consumption which we're still trying to work out.

14 We, PG&E has embedded in its forecast a
15 continuation of voluntary conservation and
16 efficiency savings after 2008 that we don't have
17 in our forecast. And we're projecting a increase
18 in industrial growth, and in PG&E's it's flat.
19 Basically, by, this is just a table, but it helps
20 to show those differences.

21 This is a little confused graph, but
22 welcome to the new era of electricity regulation,
23 or something. The bottom line is PG&E's bundled
24 retail consumption forecast. The second line is
25 PG&E plus the municipal and filers that were over

1 200 megawatts that filed reports with us. The top
2 line adds in the -- an estimate of the forecast
3 with the, the small entities that didn't file,
4 plus the Central Valley Project. And on top, we
5 have the staff forecast. So you can see that,
6 that our forecast now here is just slightly higher
7 than PG&E. In peak there's not a whole lot of
8 difference. And once again, there's a difference
9 between the, the PG&E peak and the aggregated
10 forecasts of all the filers for the PG&E planning
11 area.

12 Residential forecast, essentially grows
13 at the same rate. The reason for the tail off at
14 the end there is because one of the municipals did
15 not file, only filed forecasts for 2014.

16 Our, our household assumptions are, are
17 different. We have a slower growth -- economy.com
18 has a faster growth in households than, than DOF.
19 I, I've put the two PG&E values there. The one at
20 the bottom line is PG&E's residential customers,
21 which is, I would consider their electric service
22 area. PG&E supplies, for PG&E households, which
23 my understanding is they're a consolidated service
24 area which includes SMUD. It's their gas and
25 electric customers.

1 And why I bring this up is just the
2 method in which we -- this comes to a
3 methodological issue and the difference in the
4 forecasts. PG&E used essentially an econometric
5 model for their forecast, which is shown in the
6 bottom line. It's use per household, driven by
7 number of households plus conservation effect --
8 see the conservation effect -- see the
9 conservation effect is there. If they would've
10 used their specific electricity residential
11 customers -- and Rick Aslin from PG&E can address
12 this, too -- I think they would've had the same
13 result. The line just would've been higher. It,
14 it would match.

15 The use per household for our -- per
16 electric, per their electric customer is the
17 middle line there. So it follows what our
18 assumption here is on historic. We just have a
19 difference of opinion in what the future growth is
20 going to be. They, they assume a continuation of
21 efficiency and decline in, a slight decline in use
22 per household, and ours increases.

23 PRESIDING MEMBER GEESMAN: And are the
24 increases based on an assumed growth in income?

25 MR. GORIN: Basically. And growth in

1 persons per -- I mean, a slight growth in persons
2 per household. Basically, every household now is,
3 is fully equipped with, with the majority of the
4 end-uses that we have in our end-use model.
5 There's some efficiency gains in them, you know.
6 The, the income relationship with miscellaneous
7 income is something -- I mean, with miscellaneous
8 use is something that, you know, we still need to
9 do some more research on.

10 This is just an example of the
11 difference in use per household from the munis
12 that are in PG&E. You can see Silicon Valley
13 Power, which is in the Bay Area, doesn't use much.
14 But everybody else is in the valley, and they use
15 a lot more, which is why our, our use per
16 household is greater than PG&E's, because we
17 include the munis.

18 This is the combined non-residential
19 forecast, and the difference between the --
20 there's two green lines on -- I mean, there's two
21 lines on the bottom. One is PG&E's direct access
22 estimate, and the other is the direct access
23 estimate of the ESPs that filed.

24 And the difference between -- and the
25 top part -- as submitted in munis, and why that's

1 not closer to our PG&E, PG&E planning area
2 forecast is that WAPA is considered in the PG&E
3 region and the Central Valley Project water
4 pumping is, they didn't, they weren't required to
5 submit a forecast, so there's a bigger gap there
6 than there should be.

7 Commercial sector forecasts for us and
8 PG&E are essentially the same. These are the two
9 primary drivers of the different forecasts. PG&E
10 used gross metropolitan product for their region,
11 and essentially our primary driver is square
12 footage, and so this is the change in both of them
13 over time. And you can see we get to the same,
14 same answer using two completely different
15 variables.

16 It's a difference in our industrial
17 forecast. We have increases. You can see that
18 the, the submitted municipal utility industrial
19 forecasts grow slightly, where PG&E's is
20 relatively flat. We have more ag and water
21 pumping than the PG&E forecast.

22 And that's it. And I think a PG&E
23 representative's going to say a few words.

24 MS. MARSHALL: Okay. Rick, here.

25 (Inaudible asides.)

1 MR. ASLIN: I'm ready to go.

2 MS. MARSHALL: Go ahead.

3 MR. ASLIN: Ready to go. Yes, my mic is
4 turned on.

5 Well, my name is Richard Aslin, and I
6 work for Pacific Gas and Electric Company. And I
7 just came today to make a few comments on the
8 staff's 2006 California Energy Demand Forecast as
9 it applies to PG&E's system planning area.

10 What I wanted to do in terms of the
11 presentation is just go through the key hearing
12 questions that were on the workshop announcement,
13 and some of those questions were, what are the
14 most important differences between the LSEs and
15 the staff's forecasts? Are the assumptions
16 reasonable? Do the staff's and the LSE's
17 forecasts present a reasonable range of forecast
18 results? How important are the accuracy of
19 population projections and historic use data, and
20 how can we improve this process going forward?

21 As was spoken about in Tom's
22 presentation, and Lynn's, also, we, we don't
23 really have any real differences between the
24 staff's 2006 California Energy Demand Forecast for
25 PG&E's system planning area and PG&E's internal

1 forecast for that same planning area. In fact,
2 they are almost identical through 2010, with a
3 difference, as I think Tom pointed out, less than
4 200 megawatts. And that's on a base of about
5 20,000 megawatts.

6 In the longer term, the only real
7 differences we have have to do with methodology.
8 And the only differences in methodology that we
9 really take issue with would be the treatment of
10 the CEE savings in the post-2008 period. My
11 understanding is that in the staff's California
12 Energy Demand Forecast, there are -- the savings
13 from customer energy efficiency programs in the
14 post-2008 period are considered to be uncommitted,
15 and therefore are not included in the forecast.
16 And that's not the case in PG&E's internal
17 forecast. What we have done is included the
18 target level of the customer energy efficiency
19 savings throughout the forecast horizon.

20 Just a question. Did, did the -- do we
21 want to open this up for questions during the
22 presentation, or --

23 PRESIDING MEMBER GEESMAN: That's really
24 your choice. I, I think our audience is a little
25 bit shy, but I would certainly invite any

1 questions that anybody cares to throw out during
2 the presentations. We'll have an opportunity
3 later in the day, as well.

4 MR. ASLIN: All right. And that, that's
5 fine with me.

6 So a picture is worth a thousand words,
7 as they say, so I will, I'll save you the thousand
8 words and just show you the picture. And what
9 you're looking at here is the blue line on the top
10 is the 2006 staff's California energy demand for
11 PG&E's system planning area. The red line is
12 PG&E's internal forecast for that same system
13 planning area.

14 This is the forecast that we developed
15 and shared with the ISO for transmission planning
16 purposes earlier this year. And you can see that
17 if you look at the two graphs, after 2008 -- and
18 I'm sorry, this is a little blurry for, for me,
19 and I'm sitting close, so it might be even
20 blurrier for you back there -- but it's around
21 2008 to 2010 when we start to diverge. And by the
22 time you get to 2016, the difference is about a
23 thousand megawatts.

24 So what I did was I took the liberty of
25 adjusting the staff's forecast, and that is the

1 light blue line. And what that is is that's what
2 you get when you adjust the staff's forecast by
3 100 megawatts per year reduction, and that hundred
4 megawatts per year is essentially what we are
5 projecting is the savings from baseline programs.
6 So you can see that if, if we use the same
7 modeling assumptions, we would end up with
8 essentially the same forecast throughout the
9 forecast horizon.

10 PRESIDING MEMBER GEESMAN: And baseline
11 programs are those funded by the --

12 MR. ASLIN: Public Goods Charge. That's
13 right.

14 PRESIDING MEMBER GEESMAN: And did your
15 earlier slide suggest that, that in the past you
16 and our staff had used a common assumption
17 regarding base --

18 MR. ASLIN: My understanding is -- and
19 this is my recollection, and maybe Lynn can verify
20 this or take issue with it, I'm not, not sure
21 which one -- but I, my recollection is during the
22 2003 California Energy Demand Forecasting process,
23 we also came across this same issue, and it was
24 resolved by the staff agreeing that they would
25 include the baseline programs in the load

1 projections.

2 MS. MARSHALL: Yeah, that's true. In
3 the last forecast we held funding level, funding
4 costs through, through the life of the authorizing
5 legislation of the Public Goods Charge. However,
6 we didn't have the construct of the, the three
7 year approval of the targets that are designed,
8 are planned to be re-evaluated in 2008. So the
9 approach we're taking now is actually more
10 consistent with the historical approach to
11 committed versus uncommitted, where, for example,
12 we would use the funding as authorized in a three-
13 year rate cycle as committed, and anything after
14 that would've been uncommitted.

15 PRESIDING MEMBER GEESMAN: Okay.

16 MR. ASLIN: So I, I think it boils down
17 to it's really more visual than, than real. We
18 both have essentially the same projections of
19 where we think load is going to end up, it's just
20 how we're showing it in the tables. But I think
21 that it is an important issue as to how we show it
22 in the tables.

23 With respect to whether we believe that
24 the input assumptions are reasonable, I think yes,
25 we do. With respect to the economic and the

1 demographic assumptions, we have no reason to
2 believe that both the staff's assumptions and
3 PG&E's own assumptions, as well as the assumptions
4 of all the other utilities within the PG&E system
5 planning area, that those assumptions are
6 unreasonable. We haven't seen the assumptions of
7 the other IOUs or load-serving entities within the
8 PG&E system planning area, but we've seen the
9 staff's and we know our own, and we think they
10 fall within a reasonable range, with the one
11 exception that we, we don't agree with the
12 treatment of the customer energy efficiency after
13 2008.

14 The question about whether the staff and
15 the LSE's forecasts represent a reasonable range
16 is an interesting one in this case, because there,
17 essentially there is no range. We're, our
18 forecast falls right on top of theirs through
19 2010. And after 2010, they would fall right on
20 top of each other if we use the same assumptions
21 around the customer energy efficiency. So they,
22 they really represent an unreasonably narrow band
23 for planning purposes. And, as Tom pointed out,
24 we used really different forecasting
25 methodologies, and we both came up on the same

1 forecast.

2 There was a, a question, a key hearing
3 question about how important are population
4 projections and historic use data. And our answer
5 to that is that they're both very important. But
6 I would caveat the population data a little bit
7 with kind of the old saw about how it's not what
8 you have, but how you use it. Because while we
9 might have different projections of the growth in
10 households or population, because we're using a
11 regression model, the regression model tells us
12 what the relationship is between historic and
13 forecast -- at least the historic growth in
14 population and the historic growth in energy
15 demand.

16 And so we very likely could have as an
17 elasticity or a relationship between population
18 growth and energy demand that's less than one.
19 And I'm not sure if that's the case with the
20 staff's forecasting methodology. I think they
21 might essentially be -- built in to their
22 methodology might be an elasticity of one. So
23 that's with respect to population. It's one of
24 many important variables, and it's not just the
25 variables, it's how the variables are used in the

1 models.

2 The second question I think is, is
3 really important, and the reason is because my
4 understanding of the staff's model is that it's,
5 it's an engineering type of model, and essentially
6 its usefulness is in the medium to the long-term,
7 and it's really projecting a growth rate and it
8 has to be calibrated back to a historic year in
9 order to get the right level of energy use and the
10 right level of peak. So it's very, very important
11 that the staff and all of the LSEs come to some
12 sort of agreement on what the use was in that
13 historic year.

14 And in this case, we, we have come to
15 that agreement with respect to the peak. I
16 believe staff and PG&E are using the same historic
17 peak for 2003. But in energy, I can see from the
18 tables that we still have some work to do there,
19 in terms of working out what the energy demand
20 really was in 2003.

21 For the last question, the last question
22 was how can we improve the process moving forward.
23 And one thing that I would like to say is that my
24 belief is that this process is working very well.
25 It's working in the way that it was intended to

1 work, which is to share information and to achieve
2 consensus. And I would really like to recognize
3 the CEC staff, especially Lynn Marshall and Tom
4 Gorin, for working with the media and my staff
5 over the last four years now, and trying to
6 resolve our differences and understand our varying
7 points of view and come to consensus on what our
8 outlooks are.

9 So I would, again, just like to
10 compliment staff on their professionalism and
11 their willingness to work with all the LSE people
12 that are in demand forecasting, both electric and
13 in gas.

14 Things we can do better, as I mentioned
15 before, I think we could get some, try to get a
16 consensus on the treatment of CEE post-2008. And
17 hopefully we can get some consensus around what
18 the historical energy use data was for 2003 so
19 that we can calibrate the models.

20 And just to sum up, I think the process
21 is working well. I think we have no real
22 disagreements as to the future path of energy
23 consumption for PG&E system planning area. The
24 only difference we have is how to treat the energy
25 efficiency savings post-2008, and our

1 recommendation for that would be that at, at a
2 minimum, we should include the PGC funded savings,
3 the so-called baseline program savings. And that
4 we hope to develop some consensus around what 2003
5 energy sales were.

6 And that concludes my presentation.

7 PRESIDING MEMBER GEESMAN: Thanks very
8 much, Rick. I think that's quite helpful. I, I
9 do want to ask you, I recognize that your forecast
10 methodology was, was different than that used by
11 the staff, but do you have a view as to the
12 reasonableness of their assumption about
13 efficiency improvement in the commercial sector
14 and declining electricity consumption per square
15 foot?

16 MR. ASLIN: I, I personally think it is
17 reasonable to assume that there will be declining
18 non-residential consumption per square foot of
19 office space. We know that there's been a lot of
20 improvement in appliance efficiency and that it's
21 likely that that will be accelerated going
22 forward. It's not going to come to an end.

23 And also, I also agree with the idea
24 that over the last several years there's been a
25 large build-up -- well, actually, if we went back

1 to the late nineties, from '95 to 2001, there was
2 a large build-up in office equipment inventory,
3 and we're not seeing that build-up anymore. That
4 had to do with everybody wanted to get a larger
5 monitor, everybody wanted to get a larger
6 computer, server farms popping up to facilitate
7 internet business, things like that. So I, I
8 would agree that that is a reasonable assumption.

9 PRESIDING MEMBER GEESMAN: What about
10 the lighting improvements associated with the new
11 standard being applied at the time of tenant
12 improvements?

13 MR. ASLIN: I have to say that's kind of
14 out of my area of expertise.

15 PRESIDING MEMBER GEESMAN: Okay.
16 Thanks.

17 MS. MARSHALL: Okay. We'll move on to
18 the Southern California Edison planning area.
19 Let's see. A lot of similar stories in many
20 aspects. The 2006 forecasts are higher because we
21 have a higher starting point, that the energy
22 growth rate is a little lower. Again, peak is
23 quite a bit higher, a little higher growth rate on
24 peak, for some of the same reasons we've mentioned
25 before.

1 Higher levels of per capita consumption.
2 Let's see. We have a declining load factor for
3 the forecast period.

4 PRESIDING MEMBER GEESMAN: Now, that
5 looks like a change in what you had previously
6 said.

7 MS. MARSHALL: We have more growth, I
8 think, in some of the hotter climate zones.

9 MR. GORIN: Part of the difference in
10 the PG&E peak forecast is that in southern
11 California over the past few years the
12 temperatures have been below -- the peak
13 temperatures have been below average, so we --
14 adjusting the forecast to account for normal
15 weather actually provided an increase in peak and
16 similarly decreased the load factor.

17 The, the last year that was near normal
18 in peak temperature would -- there wasn't one.
19 The last, the last year was 1998, and that was way
20 above normal. Everything since then has been
21 below normal. So it's a conservative estimate,
22 and we're going to get back to normal sometime.

23 PRESIDING MEMBER GEESMAN: And normal
24 means a declining load factor.

25 MR. GORIN: Well, normal would mean a

1 higher -- yeah, a -- and there's actually more
2 growth in the inland areas. So the, the normal
3 weather is back, I think in, it's like 1995 is
4 what would be considered the one in two peak
5 years, so you get a load factor essentially in
6 that range.

7 PRESIDING MEMBER GEESMAN: And these
8 historical numbers aren't weather normalized, are
9 they.

10 MR. GORIN: Those historical numbers are
11 actual.

12 MS. MARSHALL: So the residential
13 forecast, we have a similar growth rate. We have
14 a lower population, higher persons per household,
15 so we have a slightly lower household forecast.
16 But we have higher income, so those, those effects
17 tend to offset.

18 PRESIDING MEMBER GEESMAN: Go back, go
19 back to that income slide --

20 MS. MARSHALL: Well, there's the --

21 PRESIDING MEMBER GEESMAN: -- the slide
22 before this one. No, I'm sorry. I've got them
23 out of sequence.

24 MS. MARSHALL: Okay. There's
25 consumption --

1 PRESIDING MEMBER GEESMAN: Yeah.

2 MS. MARSHALL: -- there's residential
3 peak.

4 PRESIDING MEMBER GEESMAN: That, that
5 appears to me to be a pretty significant change in
6 your, your outlook from where it was in '03.

7 MR. GORIN: Which is primarily based on
8 the prior year.

9 PRESIDING MEMBER GEESMAN: Okay. So
10 it's a question of what, where you start from.

11 MR. GORIN: Yes.

12 PRESIDING MEMBER GEESMAN: Okay.

13 MR. GORIN: We, and I think in '03 we
14 didn't really take the time to consider the
15 mildness of the summer peak conditions, and in --
16 last, last summer kind of brought that to light,
17 so we decided that it was probably a good idea to
18 make that adjustment.

19 PRESIDING MEMBER GEESMAN: Okay.

20 MS. MARSHALL: Use per household, that's
21 driven in part by the -- in particular, short-run
22 growth and personal income. We have, these are
23 the demographic assumptions, so the net effect of
24 the population and persons per household changed.
25 We have a pretty similar household projection.

1 And there we see the decline in income that didn't
2 happen, causing the problems with our last
3 forecast.

4 Okay. So again, in the non-res, same as
5 the residential. The starting point is shifting
6 up the forecast. On, on balance, the growth
7 rate's pretty similar. And this is one of the
8 problems, one of the reasons driving differences
9 out of the sector level, is the unclassified in
10 the Edison planning area, that we changed the
11 allocation between commercial and industrial.

12 Okay. Commercial forecast growth rate
13 is pretty similar. They were asking about floor
14 space. So we have a higher floor space forecast
15 based on historic additions in southern
16 California, but we have a declining use per square
17 foot, so those two changes kind of offset to give
18 a similar growth rate.

19 Industrial growth rate's fairly similar.
20 And this is the industrial energy intensity
21 declining at about the same rate as the historic
22 data.

23 PRESIDING MEMBER GEESMAN: And do you
24 see the, the same sectors of the economy
25 contributing to that trend that you did in the

1 PG&E service territory?

2 MS. MARSHALL: Yeah, it's pretty
3 similar. A lot of the high tech type sectors, as
4 well as some growth in things like textiles and
5 manufacturing.

6 And these are the, again, ag. We have
7 a --

8 MR. GORIN: The reason for the low ag in
9 2003 is that MWD was shut down for three months,
10 so that, they're included in that CE planning
11 area. So there's, that's an, kind of an
12 artificially low number.

13 MS. MARSHALL: And then mining sector is
14 predicted to decline. And these are the highest
15 forecasts we use. Again, these were based on data
16 we received from Edison. I think it's pretty much
17 identical to their -- Edison, as well as some of
18 the municipals in the, in that planning area.
19 Okay.

20 Comparison to the aggregated forecasts
21 that we received from Edison and a couple of the
22 municipals and several ESPs, five ESPs.

23 Up until about 2010, they are very
24 similar. However, after 2010 we see, that's when
25 we see a divergence. So by 2016, the energy

1 forecast of the aggregated submittals is almost
2 nine and a half percent higher, six and a half
3 percent higher on peak. And there's a visual.
4 You can see the pink line is the staff forecast,
5 and the stacked bars are the aggregation of what
6 we received. The top line, all ESPs and other
7 public utility districts, that includes staff's
8 estimates of load forecasts for those entities
9 that didn't submit forecasts to us.

10 So, similar on the peak forecast, very
11 similar until after 2010, when we see a much --
12 the LSEs are forecasting a much higher growth
13 rate.

14 Residential sector. This is, we're
15 comparing now the demographic assumptions used by
16 staff and Edison's specific for their forecast.
17 They have a lower population forecast. However,
18 they, they're assuming implicitly decreasing
19 persons per household, so they have actually
20 more --

21 MR. GORIN: They have a higher growth
22 rate.

23 MS. MARSHALL: They have a higher growth
24 rate in households. Okay. This is, so this is
25 the difference in persons per household

1 projections. Edison's is -- I don't know if they
2 used this variable explicitly, but, yeah,
3 calculating it using the data submitted to us,
4 implies a constant persons per household compares
5 to ours, which is increasing.

6 The comparison of residential use per
7 households. And I think fairly similar. On
8 Edison's, you see the residential use per
9 household increasing faster in the latter half of
10 the forecast. I think that's primarily the
11 difference in the personal income projections that
12 you can see here. They're -- we're using
13 economy.com, they're using Global Insight. And
14 clearly much higher, a much more optimistic
15 assumption on their part. So that seems to be the
16 driver, main driver of the differences in the
17 residential sector. That's total personal income.

18 Okay. Commercial sector. And again,
19 here we're just comparing, primarily comparing
20 Edison's -- this graph does have the, some of the
21 commercial forecasts submitted to us. But again,
22 the aggregated forecasts are much higher in the
23 latter forecast period.

24 We have a slightly different pattern of
25 floor space additions, but I think the real

1 difference is in assumptions about use per square
2 foot, and they have two different commercial, what
3 we would call commercial sectors, commercial and
4 public sector, and both of those have increasing
5 use per square foot, whereas, again, we're
6 assuming declining use per square foot.

7 PRESIDING MEMBER GEESMAN: Do we
8 distinguish between public sector and commercial
9 sector?

10 MS. MARSHALL: No, they're generally
11 included. We have, we model by building type, so
12 government offices would be in, you know, large
13 office buildings or small office buildings, so we
14 don't have government as a separate entity.

15 Okay. Industrial forecasts are fairly
16 similar. Ours is a little higher. Our forecast,
17 comparing the aggregated industrial forecasts,
18 they're really quite similar. Again, we have, you
19 know, higher assumptions about increases in water
20 pumping, so growth there compared to Edison's --
21 demands.

22 These are our comparisons of the
23 assumptions about self-generation. We have
24 differences in historical data, but setting that
25 aside, they do have a much, kind of a higher

1 growth rate than staff's. Same on the peak side.

2 So those are -- I'll turn it over to

3 Ted. Do you want me to? Okay. Okay.

4 MR. MUREAU: Hello, Commissioners. My
5 name is Ted Mureau. I work for Southern
6 California Edison. I have approximately 35 years
7 of forecasting experience, 30 of those in the
8 electric utility industry. And I think that gives
9 me a longer tenure than even Mike Jaske in
10 forecasting.

11 PRESIDING MEMBER GEESMAN: You're not,
12 though, up with Tom Gorin, I don't think.

13 MR. MUREAU: Well, Tom had a long
14 stretch of part-time employments.

15 (Laughter.)

16 PRESIDING MEMBER GEESMAN: How much --
17 how much of that period is with Southern
18 California Edison?

19 MR. MUREAU: The last six years, and
20 part of that I was with a neighboring utility.

21 I've had 20 years of end-use
22 forecasting, and about, at the same time, 25 years
23 of econometric forecasting. So, with that, let me
24 begin my presentation.

25 When I first started to put this

1 together, I was using the April draft forecast
2 that the staff had provided, and then I realized
3 that between April and June they had changed their
4 peak demand forecast. I felt that I could then
5 substitute a later forecast that, that we had
6 developed in-house. And so the point of all that
7 is some of the differences have been narrowed
8 between what the staff has shown and, and what I'm
9 going to show in this presentation.

10 The big difference in our forecast for
11 this presentation has been the inclusion of energy
12 efficiency beyond 2008, continuing in through the
13 2016 period. We use Global Insight as our
14 provider of the economic forecasts. We begin with
15 California, and then we shear that state forecast
16 down to the service territory, while at the same
17 time looking at Global Insight's county level
18 forecast. Now, the reason we do that is, again,
19 ours is an econometric forecast. We use monthly
20 data as opposed to annual, and the county forecast
21 that Global Insight, and I think the other
22 providers provide at the county level, is annual
23 data.

24 So we feel that if, if we can kind of
25 track what they do at the county level, we can get

1 a better and a, a more timely forecast. Because,
2 and again, the providers, I think, also do the
3 county level forecasts essentially one year at a
4 time, with some, some minor revisions.

5 PRESIDING MEMBER GEESMAN: Do you build
6 up your, your service territory forecast from your
7 -- I think you have four planning units, or four
8 planning zones?

9 MR. MUREAU: No. Ours is, the forecast
10 that you're seeing here is a service area
11 forecast. We make modifications to make sure that
12 the county data is representative of that portion
13 of the county that SCE provides service to. For
14 instance, Los Angeles County, being the, the chief
15 county that, you know, half of that county is, has
16 municipal utilities providing the energy service,
17 so again, we make adjustments in, in the county
18 data that we use for Los Angeles County when we
19 aggregate it up, the econ demo data, when we
20 aggregate it up to the service territory.

21 I also take some liberties with the
22 Global Insight forecast. These forecasts are
23 typically done on the East Coast. I try and
24 incorporate as much local data as possible.
25 Department of Employment provides employment

1 estimates that we make adjustments with. We look
2 at some of their assumptions on population
3 employment, and if they look to be unreasonable
4 over the long term, I'm not afraid to, to change
5 them.

6 In, in summary, let me say that I think
7 the economic forecasts, ours is higher than, than
8 the staff forecast, and I think that adds to some
9 of the difference. The composition of retail
10 sales, I think staff has indicated that on the
11 industrial sector we're lower, they're higher.
12 And it's vice, and it flip-flops on the commercial
13 sector, and I think that has some implications for
14 the peak demand forecast, industrial load being
15 flatter, commercial load being peakier. And so I
16 think that takes, provides some of the difference.
17 And then there's just the definitions and
18 methodologies, which I'll talk about later on.

19 Okay, if you'll -- population growth.
20 There's been a lot of questions about population.
21 We start with the Department of Finance estimates
22 and kind of go from there and make adjustments in
23 the Global Insight forecast.

24 Let me say that it's my -- being an old
25 econ demo man, it's been my belief that population

1 in the short run, five, six, ten years out, really
2 depends on employment. The people that are going
3 to be employed over the next ten years are already
4 on the ground. They may not necessarily live in
5 California, but they're going to be responding to
6 the employment trends in, in California. So
7 employment begins -- is our driver for our
8 population projection.

9 Beyond ten years, then it becomes more
10 of a demographic forecast. You have to have the
11 population in order to support the employment.
12 So, again, when we do our forecasts we do a 30-
13 year forecast again. I thought we had moved away
14 from that, but now we're doing 30-year forecasts
15 for resource planning purposes. And so
16 demographics become more important over the longer
17 term.

18 Population is important in the forecast,
19 but I believe that households are more important
20 because that, those are the consuming units. And
21 wherever you see a, a 2006 designation of the
22 year, please read that as 2016. That's a mistake
23 I've made throughout this presentation. It's
24 meant to be 2016.

25 There's a difference in where we start.

1 I suspect that that's just an accounting
2 difference, the way we allocate between the staff
3 and the utility as to how we get there. I'm
4 essentially counting residential accounts. That's
5 my, my measure of, of households. And there is a
6 difference between the staff and the utility in
7 the early years, but by 2016 it all but
8 disappears. And it's those households, because we
9 do our forecasts essentially as a, a kWh per
10 household, and then multiply that by the expected
11 number of households to get the total consumption
12 in the, for each of the years.

13 Next slide, please.

14 I think the, the staff has already
15 indicated that we have a considerable difference
16 in our personal income. And I think this points
17 to probably some even deeper differences. I think
18 we probably have a higher employment and also
19 higher wages going out. And in the non-wage part
20 of the personal income, I suspect that we also
21 have a more robust growth in things like
22 proprietors income and, and those other components
23 of non-wage income. And that may be because in
24 the southern part of the state, we see a more
25 robust economy over the last couple of years, and

1 we see that continuing into, into the future.

2 PRESIDING MEMBER GEESMAN: And is that
3 difference attributable to differences between
4 economy.com and, and Global Insight, or is it
5 something other than that?

6 MR. MUREAU: I really can't speak for
7 economy.com. We're not a subscriber to
8 economy.com, so I really don't know.

9 PRESIDING MEMBER GEESMAN: Okay. And
10 that's the sort of, that's the sort of assumption
11 from Global Insight that, that you would feel free
12 to adjust, based on your own judgment.

13 MR. MUREAU: I have. I, I reduced some
14 of their employment categories, one in the
15 immediate term, just to match what Department of
16 Employment is saying employment is. And then if
17 they have growth that I think is unsustainable in
18 some other categories, I'll even adjust it in, in
19 the long term.

20 PRESIDING MEMBER GEESMAN: Okay.

21 MR. MUREAU: Construction was, was, has
22 always been one of their weak points. They have
23 everybody working in construction by the year
24 2030. That doesn't seem plausible at this point.

25 There are differences in, in our retail

1 sales forecast. Again, we've narrowed the gap
2 because of our inclusion of energy efficiency
3 beyond the 2011, or 2008-2011 period. And some of
4 it may be due to, to definition as to what retail
5 sales is. I know we -- I'm always sure what
6 Edison's sales are, given that the staff is, is
7 aggregating, disaggregating, including private
8 supply. I'm not always sure that I'm correctly
9 adjusting their, their figure to, to come down to
10 what we have. There, there is a big difference in
11 the, the '98-'99 time period as to what the, the
12 actual sales are.

13 Here you just see an illustration of
14 the, the difference we have between, in the
15 industrial sector. Now, this is industrial
16 consumption, so I took their number and then I
17 took our sales number and added our estimate of
18 what the, the private supply is, and you can see
19 that there, there is a big difference. And they
20 have a growing industrial sector, while I
21 struggled to keep it flat. That's, that's a
22 difficult task, given the, the history of the
23 industrial sector and the way Californians, all of
24 us, treat manufacturers in the state.

25 PRESIDING MEMBER GEESMAN: Yeah. Now, I

1 think that they attributed their view to growth in
2 the technology sector, and I believe they also
3 said garment, a couple of other discrete sectors.
4 Do you have a reaction to, to what you heard them
5 say?

6 MR. MUREAU: I don't believe that our
7 garment sector could compete with offshore
8 producers of, of garments. I mean, does WalMart
9 buy anything in this country?

10 MS. MARSHALL: That's a fairly small
11 percentage of the industrial demand.

12 MR. MUREAU: But, but -- not to be
13 argumentative, but I think it's illustrative of,
14 of the changes that are going on in the California
15 economy. It's becoming more and more difficult
16 for manufacturers to compete with offshore
17 manufacturers. Our, it, it's difficult in this
18 state, and I don't know that there's a lot that we
19 can, can do in terms of that. I just don't think
20 we have the economic advantage in, in
21 manufacturing.

22 When we talk about net system energy or
23 NEL, I was quite surprised at how close the, the
24 forecasts came to each other, particularly by the,
25 the end of the, end of the forecast period. Given

1 all the differences that we have in outlook,
2 that's, that's quite, quite surprising. So I'm
3 not sure how to address that.

4 Peak demand, we do have differences.
5 The, I think the staff is correct in their
6 assessment that we'll have a declining load factor
7 through the forecast period. We start at a lower
8 load factor, and that's a fairly important measure
9 in our forecasting of peak demand. I think in the
10 staff's forecast that's just a, an end result, and
11 it's used as a, as a metric. Our forecast has
12 load factor declining, and then we, we hold it
13 steady out in the later years.

14 The reason for that decline in, in load
15 factor or, and our higher peak is, again, you can
16 point to the mix of the sectors. Again, the flat
17 load of the industrial sector we have shrinking at
18 the peak year commercial sector load. We have, I
19 believe, higher household consumption that would
20 contribute to differences. And so -- but in the
21 end, I think the difference in, in our peak loads
22 is probably only equal to a one or two degree,
23 temperature degree difference on the day of the
24 peak.

25 Our normal temperature that we used for

1 forecasting is 102. If we were to lower it to
2 101, I think we would have a forecast that is even
3 more similar to, to what the staff has. So those
4 temperature variations have the ability to render
5 both of our forecasts inadequate.

6 And then on my final page, let me make a
7 couple of comments about the commodity. We
8 forecast electricity sales, and in particular we
9 forecast sales to our bundled customers. The
10 staff has the view that they are forecasting
11 consumption, and the two are different, and they
12 lead to some modeling differences.

13 We use private supply in an econometric
14 model on the right-hand side. That helps us
15 explain variations in, in our sales. The staff
16 uses it in the end-use models on the left-hand
17 side. That is part of, of their equation. And
18 that makes a big difference. Now, and I think
19 that leads to some of the differences.

20 Planning area. Prior to 1998, we were
21 able to get a lot more information about the
22 resale cities and the other energy providers in
23 our service territory. Since 1998, we're no
24 longer -- as a forecaster, I'm no longer privy to
25 that information. We've been warned by our

1 lawyers that we are not supposed to go out and try
2 and find sales data for the resale cities. We're
3 limited, limited to calling up the CEC staff and
4 saying do you have sales data for the -- for
5 Anaheim, Riverside. It's a public source, so we
6 can go there.

7 We cannot talk to the transmission
8 people and find out what we're delivering to those
9 customers, so we concentrate on sales within our
10 region, as opposed to the other LSEs within the,
11 the service territory. So we, we're at a
12 disadvantage when talking about the planning area.

13 Purpose of forecast. Again, two
14 different purposes. The staff forecast is a
15 planning document. Ours has some planning uses,
16 but it is primarily used for procurement purposes
17 and rate-making. So we're much more interested in
18 the shorter term, two, three, four, five years
19 out. So we invest a lot of time and effort in, in
20 using the latest data that, that's up to date.

21 I think that's best illustrated when you
22 look at some of the staff's graphs. Can you go
23 back to the industrial picture? Yeah.

24 When I was looking at the tables, staff
25 has history through 2003, and then they don't

1 begin their forecast to 2006. Well, we have the
2 advantage of having included data through November
3 2004 in our forecast, and we have to provide a
4 forecast for 2005, because that is a year that
5 we're procuring energy for. And it's also a year
6 that the, the PUC wants us to provide energy for,
7 and, and it has to go through them and the ISO at
8 the same time. So that is a basic difference that
9 lends -- leads us toward one, one type of
10 forecasting model as opposed to another type of
11 forecasting model.

12 And then the issue of aggregation. We,
13 we forecast by customer class, residential,
14 commercial, industrial. It's usually kWh per
15 some, some measure of, of the physical unit,
16 whether it be a household or a square foot, or, or
17 employment. And then we aggregate up from there.
18 And we're very dependent on getting timely
19 information.

20 Now, the end-use models are a series of
21 econometric models at the end-use level. My
22 biggest concern about those models, and I think
23 it's come up in the conversation, is the number of
24 assumptions that have to be made about the
25 components of those models. Any forecast is based

1 on a large number of assumptions. End-use models
2 take that and quadruple them. You have to make
3 assumptions about, you know, how, what buildings
4 will meet the standards and how will existing
5 buildings meet the standards, and so you begin to,
6 to build this long list of assumptions, some of
7 which can be countervailing to, to others that
8 you're making, so that you begin to have a wash-
9 out in terms of what you're doing.

10 And, and I understand that the staff has
11 the personnel and the ability to collect that
12 data. Those of us in the utilities don't have
13 that luxury, and so that's why we tend to, to stay
14 with the econometric by the, by the customer class
15 forecasting methodology.

16 I have no other comments to make, and
17 thank you for your patience.

18 PRESIDING MEMBER GEESMAN: Well, thank
19 you very much. I want to make certain that I, I
20 understand what you said about your inclusion of
21 energy efficiency programs. Are you taking a, a
22 position consistent with what PG&E described, in
23 terms of including those programs throughout the
24 forecast period that are, that are funded through
25 the public goods charge?

1 MR. MUREAU: Yes. I, and I appreciate
2 PG&E bringing up that, that matter, that issue.

3 PRESIDING MEMBER GEESMAN: Let me then
4 also ask you about your view. And I, I recognize
5 that you use a different methodology than our
6 staff does, but your view of the way our staff has
7 approached commercial building space, and most
8 specifically their assumption about declining
9 electricity use per square foot because of some
10 optimism about the effect of new standards.

11 MR. MUREAU: Not being privy to all of
12 the information that they had on hand to make that
13 decision, I'm not sure how they got there.
14 Intuitively, that seems to me to be a fairly
15 strong position to take.

16 It's been my observation that sometimes
17 increased standards don't necessarily reduce
18 consumption but shift it. Now, you can improve
19 the, the envelope on the building. In effect, you
20 may not, you may reduce the cooling load in the
21 summer, but you may need to increase heating load
22 in, in the winter. You can introduce lighting
23 standards, but you end up having employees bring
24 in their own lamps. I, I'm not sure that the
25 increased automation in the, in office space is

1 over. I don't believe that it's going to grow
2 like it did in the 1990s, but I do see additional
3 appliances being applied.

4 When it comes to refurbishing new
5 buildings, or, excuse me, existing buildings, I
6 suspect that as they install more efficient
7 lighting they're probably also installing
8 additional capacity in the building to carry
9 additional appliances. One of the reasons you
10 refurbish is that, you know, you have, you now
11 have more appliances in the building than the
12 existing wiring can carry, so you're, you're
13 improving and you're bringing in new appliances.

14 PRESIDING MEMBER GEESMAN: Now, it looks
15 as if our assumptions about floor space additions
16 are, are roughly similar, but I think that the
17 staff may have gotten there in a different fashion
18 than you did. They carry forward the average
19 additions for the last ten years. Do you have a
20 view as it relates to your service territory as to
21 how reasonable that type of assumption is?

22 MR. MUREAU: I used that assumption.
23 The way we do our floor space projection is, is we
24 buy data from F.W. Dodge. We buy their forecast
25 for our service territory. It only goes out four

1 years, and so from year five through year -- or
2 through, I guess, 2008 through 2016, we
3 essentially take the ten-year average and project
4 it out much as they do. But we do rely on what
5 their, what F.W. Dodge is, is saying for the, for
6 the short term.

7 PRESIDING MEMBER GEESMAN: Thank you
8 very much.

9 MR. MUREAU: Thank you.

10 MR. GORIN: Can I ask, ask a couple of
11 questions?

12 PRESIDING MEMBER GEESMAN: Shoot.

13 MR. GORIN: You may notice that there
14 were two different stories about forecast
15 differences. This is the December forecast, which
16 is lower than the forecasts they submitted in
17 February and April. And I'm not quite sure what
18 forecast you were referring to that we changed.

19 MR. MUREAU: When I was looking at your
20 April draft --

21 MR. GORIN: The April --

22 MS. MARSHALL: There's a small change in
23 it. Change in the peak.

24 MR. MUREAU: And there was a change in
25 the peak. Now, Lynn characterized it as small. I

1 thought it was gigantic.

2 (Laughter.)

3 MR. GORIN: But, so this forecast, the
4 December forecast is lower than what they
5 submitted in February and it's my understanding
6 it's primarily due to efficiency?

7 MR. MUREAU: Right. Let, let me
8 clarify. The December forecast that we submitted
9 to you February 1st is, was the first forecast.
10 We subsequently, in April, took that forecast and
11 included additional energy efficiency 2008 through
12 2016, and I believe that's what, that is the
13 lowering of, of the forecast.

14 MR. GORIN: But then we need to revisit
15 that, because when I looked at the April forecast,
16 the only numbers that changed were 2004. It looks
17 like you added 2004 actual consumption.

18 MR. MUREAU: There -- that may be, that
19 may be. I don't --

20 MR. GORIN: So that's something we have
21 to work out.

22 MS. MARSHALL: Well, it, it appears that
23 the forecast Ted is using today includes a
24 significant amount of uncommitted DSM. That's not
25 in the demand forms, it is shown in the supply

1 side as uncommitted. So without that, your
2 forecast is significantly higher than ours.

3 MR. MUREAU: It would be higher. That's
4 right.

5 PRESIDING MEMBER GEESMAN: Thank you.

6 This might be a good time to invite any
7 questions for either the staff or for PG&E or for
8 Edison relating to the PG&E and Edison service
9 territory forecasts. I knew it was a good idea to
10 invite those questions, since nobody appears to
11 have any.

12 What's your preference? Should we take
13 our lunch break now and come back for San Diego,
14 as we had previously scheduled? Or should we go
15 ahead and, and get San Diego done now?

16 MS. MARSHALL: San Diego, do you have a
17 preference?

18 PRESIDING MEMBER GEESMAN: I'm looking
19 at the schedule that has you guys targeted for
20 1:00 o'clock. And we've got 45 minutes allotted
21 for it. But I'm happy to go either way.

22 MS. MARSHALL: Do you guys want to do it
23 now? Okay. Shall we go for it? Okay. Do you
24 want to start?

25 MR. GORIN: Sure. Okay. This is sort

1 of the same story. Again, we have small energy
2 forecast differences. We have, from our, our 2006
3 to 2003 forecast, we made the similar adjustment
4 to San Diego for normal weather because it hasn't
5 been hot in southern California for a while, and
6 we think it may get hot again sometime.

7 The forecast growth rates are
8 essentially the same, and there's --

9 PRESIDING MEMBER GEESMAN: Tom, on the
10 weather adjustments, we had an extended
11 discussion, I think when we were going over the
12 summer of 2005 forecast, about weather data in the
13 SDG&E service territory. And you continued the
14 approach that you were taking then in the
15 alternate --

16 MR. GORIN: We continued -- we looked --
17 yes, to both questions. We're continuing to look
18 at it. I think we will include a reduction in the
19 variation in weather for El, for adding in El
20 Cajon. It, it appears from the information that
21 we looked at -- and I haven't shared this with San
22 Diego yet, but I will -- looking at the history
23 that we currently have from '93 on, in, in some
24 years El Cajon adds a little to the explanation
25 of, of peak. In some years, it doesn't. But if

1 you -- so you get maybe a little better fit
2 overall with adding El Cajon, but it would reduce
3 the variation in, in temperature, so we're looking
4 at doing that. We haven't quite got our hands
5 completely around it yet.

6 PRESIDING MEMBER GEESMAN: So right now
7 your, your weather adjustments are, are focused on
8 Miramar?

9 MR. GORIN: No, they're focused on
10 Lindberg Field.

11 PRESIDING MEMBER GEESMAN: Okay.

12 MR. GORIN: And it, it appears from the
13 press that they're going to move Lindberg Field at
14 some point in time too, so that's not going to be
15 there forever. But we're still studying that, and
16 we'll share the -- and we're sending information
17 back and forth periodically.

18 So there's not a whole lot exciting
19 differences in our forecast. There's still these
20 -- per capita consumption increases slightly
21 because consumption is increasing after the little
22 jolt they had there in the energy crisis.

23 We're projecting the load factor to
24 remain constant, rather than the increase,
25 slightly increasing load factor we had in the

1 previous forecast. You can see through the
2 historic period that in that whole mess, it's
3 probably relatively constant over that period of
4 time.

5 Our residential growth is, is lower due
6 to new economic and demographic factors. Our, our
7 peak is lower because of the difference in load
8 shapes that we, the residential and industrial
9 load shapes we put in. Sort of the same, lower
10 population, and we actually have a, a lowering of
11 our persons per household estimates, and so we
12 have fewer households. And using the regional
13 economic growth, we have lower personal income
14 growth.

15 In the peak, peak is the same growth
16 rate, it just starts from a different position.
17 Mainly due to the actual 2003 peak. Use per
18 household is increasing, based on increasing
19 income. This is a larger difference than probably
20 the other service territories in change in the DOF
21 estimates of San Diego County, or the San Diego
22 service area. And we greatly flattened out
23 persons per household, so you end up essentially
24 with the same household formation.
25 There really wasn't what you would call a

1 recession in the San Diego planning area, and
2 resulting from that there's no assumed great
3 rebound.

4 Non-residential forecasts, we combined
5 them. They're simpler. We have differences of
6 opinion in unclassified consumption, which results
7 in different levels of peak. But the non-
8 residential's the same. San Diego unclassified
9 was unique, so we fixed it, hopefully.

10 We didn't, our, our submittals from the
11 San Diego and LSEs in the San Diego, or ESPs, San
12 Diego service territory indicated that the
13 national defense industry was no longer using any
14 energy, or very much energy in the San Diego
15 region. We didn't quite think that that was
16 actually happening, so we put a lot of that
17 unclassified into the TCU sector, which national
18 defense is part of.

19 But we, this is, if we're going to
20 continue to use end-use models, which I think we
21 should if we're going to do program planning and
22 things of that nature, we need to more accurately
23 figure out where the energy is being used.

24 Commercial is essentially the same.
25 Commercial peak is the same growth rate.

1 Commercial floor space is amazingly similar to
2 what we did last time, and we -- by using
3 different methods than we used last time. The
4 same reduction in commercial use per square foot.
5 Similar increase in industrial consumption and
6 peak. TCUs growing slightly, and we have, instead
7 of a flat line in oil extraction forecast, it's
8 growing, and the prices go down.

9 PRESIDING MEMBER GEESMAN: It's a
10 wonderful world.

11 MR. GORIN: The forecasts aren't that
12 different. They're more different than they were
13 in PG&E and less than our assumption of Edison's.
14 Most of the difference is in residential. And I
15 think it may factor into implications on persons
16 per household, and they have faster income growth
17 because I think, in general, the Global Insight
18 forecast is rosier than the economy.com forecast.

19 And commercial, they have higher growth
20 rate and additions. Or higher growth in
21 additions. So through 2010, on the energy side
22 there's not a whole lot of difference. We're --
23 and 200 megawatts or so different, 150, on peak.
24 The differences grow after that time period.

25 This is a breakdown of bundled and

1 unbundled energy consumption forecast. Peak
2 comparison, where there's growing at a slightly
3 higher rate. Residential forecast for San Diego
4 grows faster in the later period. We have a
5 difference in accounting, I guess you would call
6 it, for households that I, I think that you have
7 to make, and correct me if I'm wrong, is direct
8 access customers that went off of the system in,
9 at the start of restructuring, so this is, I
10 believe this is a residential bundled customer
11 forecast. Where ours, we, we don't really care
12 who serves them. We just have a estimate of
13 households for the San Diego planning area.

14 These are three different population
15 projection, and I guess planning area is not
16 exactly accurate. I, I know that SANDAG forecast
17 is for San Diego County only. I believe the SDG&E
18 forecast is for San Diego County, also. Our
19 forecast includes the portion of Orange County
20 served by San Diego Gas and Electric.

21 This is a derived, the SDG&E is a, is a
22 derived from their forecast submittal. The, the
23 jump up corresponds to the dip where they lost
24 some residential customers through direct access.
25 I also put on there the SANDAG view of San Diego

1 County from their, I, what I believe is their most
2 recent population projections, or, persons per
3 household projections.

4 PRESIDING MEMBER GEESMAN: Why the
5 historical disparities between SDG&E and SANDAG
6 and the staff?

7 MR. GORIN: I, I believe that this, that
8 San Diego, or the SDG&E number is population per
9 residential customer. And the residential
10 customers include their Orange County portion,
11 where the population is, population is limited to
12 San Diego County.

13 PRESIDING MEMBER GEESMAN: Okay. But it
14 -- different questioning, would appear that your
15 assumptions and SANDAG's aren't very dissimilar.
16 That SANDAG, too, assumes a, a continued growth in
17 persons per household.

18 MR. GORIN: Yes. They have a little
19 decline in growth. I --

20 PRESIDING MEMBER GEESMAN: Do you know
21 how they derived theirs, or --

22 MR. GORIN: No, I don't.

23 PRESIDING MEMBER GEESMAN: Okay.

24 MR. GORIN: I just went into their --
25 San Diego represented it to me.

1 PRESIDING MEMBER GEESMAN: Okay.

2 MR. GORIN: I was just, I knew of the
3 interest in population forecasts, so I just tried
4 to dig through everything I could find at the
5 time.

6 This is comparison of our per capita
7 personal income. You can see they're relatively
8 consistent until the end of the forecast period.
9 They have a little more growth in use per
10 household, and I would assume that that's related
11 to their growth in personal income.

12 Non-residential forecasts are, again,
13 close until the end of the forecast period, and
14 they're not really that different at the end of
15 the forecast period. We tried to compare floor
16 space additions. It looks like we may be a year
17 off, but I think this, the main focus of this
18 chart is that their projections on additions for
19 the future are higher than history, and ours are
20 somewhere in the middle of the historic period.

21 PRESIDING MEMBER GEESMAN: And yours are
22 derived from a ten-year average of the pretty
23 wildly fluctuating annual lines, it looks like.

24 MR. GORIN: Right. So I think that's
25 it. And, can we have Steve --

1 MR. JACK: My name is Steve Jack. I
2 represent San Diego Gas and Electric. And my
3 comments will reflect many of the same issues
4 you've already heard discussed today.

5 I particularly identified with the
6 comments that Ted Mureau made a few minutes ago,
7 not only because I'm also one who's been in this
8 game longer than I care to admit, but we have a
9 lot of similarities in terms of our methodology,
10 and therefore the differences with the staff
11 forecast.

12 What I'd like to do instead of
13 presenting the detailed results of the forecast is
14 just try to highlight some of the issues, as I
15 said, some of which are the same as you've heard
16 before, and a few unique issues, also, to us.

17 The methodology is substantially
18 different, as Ted pointed out, with the staff. We
19 also use an econometric approach, as compared to
20 their end-use approach. So a lot of the, the
21 detailed comparisons don't tell us a whole lot.
22 I'm going to try and pick out a few of the key
23 ones that will help characterize the differences,
24 and some of the things that we can do to perhaps
25 narrow the, the gap.

1 The comparison that was presented in
2 the, the staff's comparison report showed a
3 difference in both consumption and peak that was
4 fairly narrow in 2008, and then beyond that it
5 actually showed a, a widening gap resulting in a
6 difference of about three years' growth by the end
7 of that period. In other words, we were about
8 three years higher than the staff was.

9 The way it's presented, the differences
10 are really larger than that after 2008. As has
11 been explained earlier, the staff did not include
12 the uncommitted DSM in their forecast, whereas the
13 forecast that was compared in that report did
14 include those effects. So after 2008, the
15 differences shown there are substantially larger,
16 amounting to as much as eight, eight years'
17 difference by the end of the forecast period. So
18 what started out to be a fairly close forecast
19 gradually grew to diverge quite rapidly.

20 Next, I'd like to try to account for
21 some of the differences. In general, the primary
22 differences in the demographics revolve around the
23 household forecast and to some extent population.
24 And we've already talked about some of the
25 differences in the sources. We rely on Global

1 Insight, and to some extent SANDAG and, while
2 staff relies on DOF and economy.com.

3 There's, there are basically, I'd say, a
4 pretty good range there, where it appears that the
5 DOF and economy.com information staff relies on
6 represents, I guess I would characterize it as the
7 lower end of the range, while Global Insight
8 appears to be on the upper end of that range.

9 One other point I should make is that
10 the forecast that we use does essentially match
11 what has recently come out of UCLA for the
12 population for the state, and we are now working
13 with SANDAG on their new forecast. It hasn't been
14 released yet, it's still in its preliminary
15 stages, but it is essentially identical to what,
16 what we assumed in the forecast that we submitted.

17 So I'd like --

18 PRESIDING MEMBER GEESMAN; When, when do
19 they intend to release that forecast?

20 MR. JACK: My understanding is it'll be
21 sometime in the fall. They still have to go
22 through, they go through a, a process where they
23 start with the entire county and then break it
24 down into various jurisdictions. That, that's the
25 part that they're in right now, trying to divvy it

1 up among the, the various cities and areas in the
2 county.

3 PRESIDING MEMBER GEESMAN: Now, when you
4 focused on population growth, do you have anything
5 to share with us about either household formation
6 or persons per household?

7 MR. JACK: I think the differences are
8 primarily in the absolute level of the household
9 forecast, as opposed to those, those other
10 assumptions, even though they contribute to the
11 difference. If you look at the, the six percent
12 difference in household growth by the end of the
13 period, that accounts for most of the difference
14 in the residential -- for a lot of the difference
15 in the residential forecast. We didn't have a lot
16 of significant differences in the use per
17 customer, which is the other component of our
18 forecast.

19 So I, I don't have anything specific, I
20 guess, to answer your question about the
21 differences in assumption, other than that's
22 what's implicit in the Global Insight forecast.

23 PRESIDING MEMBER GEESMAN: And they
24 attribute, the staff attributes a fair amount of
25 that difference to the, the difference in persons

1 per household. They believe that by using the
2 Global Insight assumptions on persons per
3 household, it backs you in, Global Insight and you
4 into a larger number for household formations.

5 MR. JACK: That's, I understand the
6 connection there. I, I don't know their precise
7 reasoning for a difference from what was assumed
8 in the other forecast.

9 PRESIDING MEMBER GEESMAN: Okay.

10 MR. JACK: One other key issue for us
11 is, is the starting point of the staff's forecast.
12 We're not quite sure what accounts for the
13 difference, but we know, just as evidence, that
14 our 2005 forecast, that is our forecast for this
15 summer, is identical almost to the staff's
16 forecast for 2006. So we're one year separated
17 right at the start of the forecast period. And so
18 right off the bat, we're, we're that much apart.

19 And I'm not exactly sure what has
20 changed between the most recent forecast from the
21 staff and the one that was done last September,
22 but I know that at that time they were projecting
23 something like 42-59 for this year. So in the
24 intervening year, they've lost most than a year of
25 growth. That could just be part of the

1 calibration process. It's, I think it's an area
2 that we can explore with them and perhaps narrow
3 some of the peak load difference.

4 I might add that the, the difference is
5 also -- the same kind of difference also exists on
6 the energy side. And I understand that part of
7 that is the energy side has data through 2003.
8 They did not include 2004 as part of their
9 historical database. And if I look at the, at the
10 actual 2004 energy on a weather normalized basis,
11 that same one and a half percent or so exists for
12 their starting point at energy, as well. So
13 there's calibration issues on both sides.

14 PRESIDING MEMBER GEESMAN: Okay.

15 MR. JACK: One other big element that,
16 that we think will go a long way toward narrowing
17 some of the peak load gap, as well as the sales
18 gap, is that the weather sensitive load in the
19 residential sector is understated by more than 50
20 percent in the staff's forecast. This is
21 significant because this is a fast-growing segment
22 of load. They, they represent about 354 megawatts
23 in their base year, and when we know that it was
24 more like 750 to 800 megawatts, based on our, our
25 load studies.

1 So I think with, with a recalibration of
2 that component of their forecast, it will increase
3 the overall growth because that is a higher
4 growing segment than the non-weather sensitive
5 load. It could add as much as one year of growth
6 if that were taken into account.

7 The last thing I want to bring up is --

8 PRESIDING MEMBER GEESMAN: Let me make
9 sure that I understand what you mean by
10 recalibration on this last point. Are you
11 suggesting that because we were utilizing 2003
12 data rather than 2004, that there's a difference
13 of what looks like close to 400 megawatts?

14 MR. JACK: No.

15 PRESIDING MEMBER GEESMAN: Or is it 2004
16 versus load studies for 2005?

17 MR. JACK: I'm not sure what the source
18 of the 354 is. That's what's in their report.
19 The way I understand it is they, they have a
20 fairly good idea of what the total residential
21 contribution to peak is, and that is, that is
22 divided into a weather sensitive component and a
23 non-weather sensitive component. So it's
24 important to get that split correct, because there
25 are different things driving those two sectors.

1 PRESIDING MEMBER GEESMAN: Okay.

2 MR. JACK: And when, when we have actual
3 information that will help them determine that
4 split, it indicates that the weather sensitive
5 portion should be much higher.

6 PRESIDING MEMBER GEESMAN: Okay.

7 MR. JACK: And then, as, as you carry
8 that higher starting point through the forecast
9 period, and a higher growth rate, then that'll add
10 to the overall peak.

11 PRESIDING MEMBER GEESMAN: And how are
12 you suggesting that be calibrated? You say when
13 we have better data.

14 MR. JACK: Well, we, we have information
15 from our load studies reports that tell, that
16 indicate what the starting value is.

17 PRESIDING MEMBER GEESMAN: Okay.

18 MR. JACK: And I think that's just a
19 question of getting with the staff and, and --

20 PRESIDING MEMBER GEESMAN: Okay.

21 MR. JACK: -- working out the details.

22 PRESIDING MEMBER GEESMAN: Okay.

23 MR. JACK: The final issue I'll bring up
24 is one that you mentioned earlier, on the weather
25 adjustment process, where we suggest that the

1 staff incorporate more than just number of field
2 for their weather data. And also add the concept
3 of humidity or temperature humidity index, as well
4 as minimum temperature to, to do their weather
5 adjustment and also to determine the difference
6 between a one and two year and a one and ten year,
7 which we feel, as we've discussed earlier, in
8 earlier proceedings, is probably overstated. It
9 sounds like Tom has already done some preliminary
10 work on that, so it looks like we're on our way
11 there, too.

12 PRESIDING MEMBER GEESMAN: Yeah. I, I
13 think it sounds as if some conversations are, are
14 in order that they resolve that difference.

15 MR. JACK: And that, that concludes my
16 comments.

17 PRESIDING MEMBER GEESMAN: I've got the
18 same questions on the commercial sector that I've
19 asked the other two utilities, and that is with
20 respect to commercial floor space additions, your
21 reaction to our projection forward of the same
22 growth rate that we've experienced on an average
23 basis over the last ten years.

24 MR. JACK: Without more information, I'm
25 not sure I could sway that answer one way or the

1 other.

2 PRESIDING MEMBER GEESMAN: Fair enough.

3 And then, as it relates to electricity use per
4 square foot, the staff is assuming a decline based
5 on the application of, of standards largely during
6 the, the tenant improvement process. What's your
7 view as to the reasonableness of, of that
8 assumption?

9 MR. JACK: Well, first of all, I noted
10 that the, that the decline for our service area
11 was fairly small, so I'm not sure there's a
12 distinction to be made there between us and the
13 rest of the state. But I think that anytime that
14 you're projecting a reversal of a direction, it'd
15 be nice to have a little bit of verification that
16 it's actually going to take place before you make
17 a wholesale change. It's kind of like, like
18 forecasting turn-arounds in the economy, or
19 something like that.

20 PRESIDING MEMBER GEESMAN: Thank you.

21 MR. JACK: You'll know it when you see
22 it.

23 PRESIDING MEMBER GEESMAN: Okay. Anyone
24 in the audience have questions on the San Diego
25 forecast or the staff forecast for the SDG&E

1 service territory?

2 MS. MARSHALL: Is Alan Sweedler here?

3 He was saying he might -- would come to speak to
4 some regional planning. Don't know if he's --

5 PRESIDING MEMBER GEESMAN: I don't see
6 Alan in the audience.

7 MS. MARSHALL: Okay. Well --

8 PRESIDING MEMBER GEESMAN: Okay. What
9 we're going to do now is take our lunch break.
10 And we will reconvene at 1:15.

11 (Thereupon, the luncheon recess
12 was taken.)

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2 AFTERNOON SESSION3 PRESIDING MEMBER GEESMAN: Next up on
4 the agenda is SMUD.5 MS. MARSHALL: SMUD. I think we might
6 do LADWP first.

7 PRESIDING MEMBER GEESMAN: Okay.

8 MS. MARSHALL: Well, let's see. Oh,
9 well, I guess it's -- the screen behind you isn't
10 working.

11 Everybody can go sit at a monitor.

12 MR. GORIN: All the monitors are dark.

13 (Inaudible asides.)

14 MS. MARSHALL: Okay. We have LADWP.
15 We've had -- historic data reported to LADWP to us
16 has changed quite a bit. We're not sure why. We
17 need to investigate this further, and actually,
18 though their forecaster wasn't able to be here
19 today, they did indicate they're willing to work
20 with us to resolve this, some of our differences.21 So the forecast grows at a slightly
22 lower rate than -- we didn't have -- as before.
23 We didn't have a big decline in economy down
24 there, so there's a lower growth rate going
25 forward. And also the building standards impact,

1 higher levels and lower growth rate for the peak
2 forecast. Really similar per capita trends. Plus
3 we have fairly constant load factor.

4 The residential energy forecast is
5 higher due to the higher 2003 and '04 demand. The
6 peak is lower. I think this reflects the changes
7 in load shapes.

8 PRESIDING MEMBER GEESMAN: Changes in
9 what?

10 MS. MARSHALL: Some of the load shapes
11 that were updated. So it changes the allocation
12 of peak across the different loads, load shapes.

13 MR. GORIN: This is something that we're
14 going to have to revisit at some point in time.
15 Also brought up by San Diego that in the more
16 temperate climates there is less air conditioning
17 load on peak, when the peak temperatures aren't
18 hot. So the new load, the new residential load
19 shapes that we have reflect probably less air
20 conditioning load and more, more baseload on peak.

21 PRESIDING MEMBER GEESMAN: This is the
22 allocation between weather sensitive and, and non-
23 weather sensitive?

24 MR. GORIN: Yes.

25 PRESIDING MEMBER GEESMAN: What's the,

1 what's the prospect for being able to address
2 that, at least in the San Diego service area, in
3 this cycle?

4 MR. GORIN: It'd probably take a month
5 or two.

6 PRESIDING MEMBER GEESMAN: It, it's
7 probably, probably more now you've been trying to,
8 to address it in San Diego, although I, I guess it
9 would flow through to, to both PG&E and Edison, as
10 well, wouldn't it? The same issues?

11 MR. GORIN: Some of the same issues,
12 but, but -- there's, in San Diego and, and L.A.,
13 they're more, they're more coastal climates.

14 PRESIDING MEMBER GEESMAN: Yeah.

15 MR. GORIN: So there's, there's more,
16 there's a greater proportion of the Edison and
17 PG&E area that are in hotter climate zones.

18 PRESIDING MEMBER GEESMAN: I mean, it
19 seems to me if you've got some of this hot weather
20 in San Diego, and --

21 MR. GORIN: Right.

22 PRESIDING MEMBER GEESMAN: -- it's quite
23 a bit more difficult than Los Angeles.

24 MR. GORIN: That's true.

25 MS. MARSHALL: Okay. Use per household

1 increasing, reflecting personal income and
2 household growth, so the demographic trends are
3 similar to some of the other areas that household
4 productions don't change.

5 MR. GORIN: It's interesting. In the
6 city of Los Angeles I looked, DOF just released
7 2004 data, and Los Angeles County still has an
8 increase in persons per household, so -- and Los
9 Angeles County is still increasing faster than has
10 been projected. You can see, you can see the
11 persons per household estimate there are based on
12 half of the '90 to 2000 growth, but the growth
13 from 2000 to 2003 has been a lot larger than the
14 historic series would indicate.

15 PRESIDING MEMBER GEESMAN: And you used
16 the L.A. County assumptions for, for LADWP?

17 MR. GORIN: Well actually, we used the
18 city of Los Angeles, because the Department of
19 Finance provides that city level of detail within
20 the county.

21 PRESIDING MEMBER GEESMAN: And is there
22 a variance between the city and the county, as it
23 relates to household size?

24 MR. GORIN: The variation?

25 PRESIDING MEMBER GEESMAN: Yeah.

1 MR. GORIN: There is, but I'm, I don't
2 know what it is off the top of my head. I just
3 know that we used the city of Los Angeles for
4 LADWP.

5 PRESIDING MEMBER GEESMAN: Okay.

6 MR. GORIN: And subtract that out of the
7 county for Edison.

8 MS. MARSHALL: Lower personal income
9 growth. In the non-res sector the forecast didn't
10 change much. Higher -- low commercial sector.
11 Lower commercial sector doing -- due to the
12 building standards.

13 MS. JONES: Can you slow down just a
14 little, Lynn?

15 MS. MARSHALL: Can I what?

16 MR. GORIN: Slow down.

17 MS. MARSHALL: Slow down. Okay. So we
18 have -- on balance, the non-res forecasts are
19 pretty similar. The commercial sector demand is
20 actually declining because of the effects of our
21 efficiency assumptions.

22 MR. GORIN: I think one thing to point
23 out with both LA and BGP service areas is that the
24 economic data is at a county level, and these are
25 portions of the county and there's no really good

1 way to break them out like there is with the
2 demographic data, because there's -- unless you --
3 there may be some information at the Los Angeles
4 City Planning Department that could be useful, but
5 I don't, we haven't researched that yet, or the,
6 the City Planning Department. But it's hard, from
7 the economic data standpoint, and actually, the
8 construction permits are at a county level data,
9 too, to apportion those to the various parts of
10 L.A. County.

11 PRESIDING MEMBER GEESMAN: The
12 construction permits are, are county data?

13 MR. GORIN: Yeah. The -- permits are
14 county level.

15 PRESIDING MEMBER GEESMAN: Okay.

16 MR. GORIN: I mean, we could, there may
17 be an ability to go through the city building
18 departments.

19 PRESIDING MEMBER GEESMAN: I mean, I,
20 I'm thinking that you're probably in a different
21 circumstance with the city of Los Angeles than
22 with, with BGP.

23 MR. GORIN: Right.

24 PRESIDING MEMBER GEESMAN: But I think,
25 I think much of that would be available for the

1 city of Los Angeles. I, I believe the city
2 accumulates that type of economic data. I may be
3 wrong. It'd be nice to have somebody here from
4 the city who would be able to tell us, but --

5 MR. GORIN: Well, we, we've explored,
6 I've explored their city planning department
7 website a little, but haven't dug that far into it
8 yet.

9 MS. MARSHALL: So our commercial floor,
10 floor space forecast is slightly higher.

11 MR. GORIN: Same -- same story in
12 kilowatt hours per square foot.

13 MS. MARSHALL: Industrial. This is
14 reflecting the change, change in allocation of
15 unclassified.

16 PRESIDING MEMBER GEESMAN: Any
17 particular sectors responsible?

18 MS. MARSHALL: For L.A., I don't know
19 specifically. I, I do recall another -- chemicals
20 industry is one with a lot of growth generally, in
21 southern California.

22 PRESIDING MEMBER GEESMAN: This looks
23 like a rather significant recalibration or
24 adjustment from our old forecast, but --

25 MS. MARSHALL: Yeah. We're using

1 different, you know, both different economic
2 projections and the, the data is different. And
3 then we did it -- let's see the intensity is -- we
4 have the intensity there. We did try to adjust
5 using the new economic driver, just the energy
6 intensity trend, which is generally decreasing
7 over time. So a combination of those things.

8 In the previous forecast we had,
9 actually had some intensity increasing in the
10 short run, and we tried to adjust to be a little
11 more consistent with historical trends. You could
12 argue that it may go down more than that. So a
13 similarly higher peak in the industrial sector.

14 TCU, we're just doing a, a trend
15 analysis, really, at the aggregate level, because
16 of the data issues.

17 And, finally, mining sector declining
18 again. Ag and water pumping is growing slowly.
19 Sector peaks. And L.A. prices.

20 Okay. In terms of a comparison, their
21 forecast is growing quite a bit faster than ours,
22 as you can see, both on electricity and the peak
23 side. We did not get a lot of detail from them.

24 MR. GORIN: They're using relatively
25 constant growth rates. On the residential side

1 they're using UCLA forecast, and, and that
2 forecast, I think there's a specific UCLA forecast
3 for L.A., L.A. County, and that's higher than the
4 DOF forecast. So that's primarily the reason for
5 the residential difference.

6 MS. MARSHALL: Yeah. In the commercial
7 sector, quite a different story there. And I
8 don't know --

9 MR. GORIN: They used a relatively
10 constant projection of constant forecast. Their
11 documentation was less than illustrative on, on
12 what they -- what was being used for forecasting.
13 I think they, they essentially used like a one to
14 one and a half percent growth rate for their
15 forecast, and, and it may be driven by employment.

16 MS. MARSHALL: Yeah. The difference is
17 here they have declining industrial and ours is
18 increasing. As was Edison.

19 PRESIDING MEMBER GEESMAN: What accounts
20 for that difference?

21 MS. MARSHALL: Well, I don't, I don't
22 know. We don't know much about how they do their
23 forecast, so I can't -- I think it's a similar
24 assumption to Edison, where they assumed that
25 there were just going to be no new industrial

1 facilities and the amount of industrial floor
2 space is gradually decaying over time.

3 PRESIDING MEMBER GEESMAN: Now, back on
4 the commercial side, did, did the staff use the
5 same technique in projecting growth in commercial
6 floor space the average of the last ten years'
7 growth?

8 MR. GORIN: Yes. And it's an
9 apportionment of L.A. County to LADWP.

10 PRESIDING MEMBER GEESMAN: Okay.

11 MS. MARSHALL: So that's all we have.
12 There's not much detail in the L.A. forecast, so
13 not much to compare, really.

14 Is that Alan, should we do Alan now?

15 PRESIDING MEMBER GEESMAN: Yes, why
16 don't we.

17 MS. MARSHALL: Okay. Yeah, come on up.

18 Do you have --

19 MR. SWEEDLER: I don't have any slides.

20 MS. MARSHALL: Oh, okay. Well, wherever
21 you'd like to --

22 PRESIDING MEMBER GEESMAN: It's an -- we
23 know what you look like, the fact that you're
24 sitting in the dark doesn't --

25 (Laughter.)

1 MR. SWEEDLER: It was meant positively.

2 Did you take a lunch break, or --

3 PRESIDING MEMBER GEESMAN: We did.

4 MR. SWEEDLER: You did, okay. I was, I
5 had a --

6 PRESIDING MEMBER GEESMAN: You probably
7 came at 1:00, and --

8 MR. SWEEDLER: I, I came, and I had a, a
9 morning meeting and we looked on the webcast, and
10 it looked like you were still in session. I guess
11 we assumed you would -- anyway.

12 PRESIDING MEMBER GEESMAN: We reconvened
13 at 1:00 --

14 MR. SWEEDLER: Okay.

15 PRESIDING MEMBER GEESMAN: -- or 1:30.

16 MR. SWEEDLER: Okay. Well, good
17 afternoon. My name is Alan Sweedler, and I'm here
18 today on behalf of San Diego Association of
19 Governments Energy Working Group. In, in real
20 life, I'm the director of the Center for Energy
21 Studies and a Professor of Physics at San Diego
22 State University, and I'm currently the Chairman
23 of the Board of Directors of the non-profit San
24 Diego Regional Energy Office.

25 My main purpose to be here at the

1 request of, of SANDAG, is to let you know what the
2 Energy Working Group is, what we're doing, and
3 specifically how it fits in with the IEPR process
4 and, and this, in general, but it's also relevant
5 to this particular hearing on electric demand
6 forecasting.

7 To do that, I think I need to give you a
8 little background although you may know some of
9 it, but it's, it's always good to, to be brought
10 up to date historically a bit.

11 Several years ago, the San Diego
12 Association of Governments formed a Regional
13 Energy Policy Advisory Council. And the purpose
14 of this council was to draft a regional energy
15 strategy for the greater San Diego region, and by
16 greater San Diego region we include the border
17 region with Mexico and Baja California.

18 I was a member of that council, and we
19 worked with a wide spectrum of stakeholders, and
20 the regional energy office served as staff to
21 that. And over a rather torturous period, with a
22 lot of different input and debates and discussions
23 and attempting to hammer out some agreements, we
24 also had quite a few elected officials on the
25 council, but noticeably absent was the utility in

1 a voting capacity on the council. But they did
2 participate directly in all of the workshops and
3 all of the, the public meetings.

4 Out of this process grew something that
5 has now become known as the San Diego Regional
6 Energy Strategy. And I brought you some CDs of
7 the whole thing, which I'd like to leave and go
8 into the record. And I think it's a very
9 interesting document. I think you've seen parts
10 of it, and it's good to have it on store here.

11 In July 2003, the San Diego Association
12 of Governments adopted the Regional Energy
13 Strategy as part of the Regional Comprehensive
14 Plan, the energy component of the Regional
15 Comprehensive Plan. This is a plan that involves
16 transportation -- by the way, the Regional Energy
17 Strategy only looks at electricity and natural
18 gas, not transportation -- transportation,
19 housing, population demographics, economic
20 development, et cetera. So this is the official
21 planning document -- to the extent that we have
22 any planning at all in California -- this is the
23 planning document for the San Diego region adopted
24 by SANDAG, and the Regional Energy Strategy is the
25 energy element of that.

1 But it was quickly recognized that
2 unless there was some follow-up, nothing much
3 would happen. So upon the recommendation of the,
4 of the council that I mentioned, the San Diego
5 Association of Governments convened a energy
6 working group, and I'm a member of that group, as
7 well, and I think you had someone here yesterday,
8 Susan Freedman, who told you somewhat about that.
9 She serves as the staff to the group. And we have
10 been moving along quite rapidly, and that's what I
11 would like to tell you about.

12 The Energy Working Group itself reports
13 directly to a board of directors through the
14 Executive Committee of SANDAG, as well as the
15 committee that deals with the regional
16 comprehensive plan. This is the mechanism, the
17 best we can do that we've come up with to get
18 energy as a stand-alone component into planning.
19 As you know, energy always falls through the
20 cracks. It's a part of economic development, it's
21 a part of housing, it's a part of transportation,
22 it's a part of everything. But we feel you have
23 to single it out and focus on it specifically in
24 our region.

25 So the Energy Working Group has 20

1 members, elected officials, and the utility is a
2 full and active participant now of this process.
3 Experts in academia, like myself, stakeholders,
4 environmental groups, business sector, chamber of
5 commerce, the whole spectrum of what you'd expect
6 for a community the size of San Diego, which we're
7 talking, if we include the border region, about
8 four and a half million people.

9 The purpose of the Energy Working Group,
10 it's a permanent committee, it meets once a month,
11 is to advise SANDAG how to implement and --
12 primarily implement and move forward the regional
13 energy strategy. But another one of its main
14 purposes is to make the work that we're doing in
15 San Diego known to state agencies, the California
16 Energy Commission, to participate in the IEPR
17 process -- which is why I'm here today -- the PUC,
18 and other relevant actors at the state level.

19 What we've set up and what we're doing
20 so far is we've identified as one of our main
21 long-range tasks is the development with SDG&E of
22 a cooperative jointly presented, at some point,
23 long-term resource plan. Traditionally, what
24 happens, of course, the utility goes to the PUC,
25 and it presents its, its long-term research --

1 resource plan, which they're obligated to do.

2 What we would like to do, and so far
3 we've had very good cooperation with the utility,
4 is to see if back home, so to speak, we could
5 hammer out a joint long-term resource plan that
6 would meet the utility's statutory requirements
7 but would also be consistent with the Regional
8 Energy Strategy. And to do this, we have formed a
9 resource subcommittee of the Energy Working Group.
10 And it's at this resource committee where we have
11 technical expertise, both our own on the
12 committee, and staff. We, we're now starting to
13 do some modeling together with the local utility.

14 What our goal is is to develop a plan
15 that meets the goals of the Regional Energy
16 Strategy. And I'd like to take just a few minutes
17 just to highlight what the goals of the Regional
18 Energy Strategy are, to have that input to you to
19 see how that fits in with the IEPR, and how it's
20 related to the long-term resource plan.

21 One goal is to achieve a regional
22 consensus. This is not a utility -- a regional
23 consensus on energy issues that we can come to
24 state agencies with. Specifically, we're trying
25 to achieve, be able to generate about 65 percent

1 of summer peak demand with in-county generation by
2 2010, and 75 percent by 2020. And I know this
3 came up yesterday, because Susan sent me her
4 notes, and you had some questions, Commissioner
5 Geesman, about transmission, and I'm, I'd like to
6 address those because we've discussed that quite a
7 bit in the, in the Energy Working Group.

8 One of our specific goals is to ensure,
9 increase the transmission system capacity as
10 necessary to maintain required reliability and to
11 promote better access to renewable resources. So
12 transmission is front and center on our plate and,
13 of course, what we're trying to do, like I think
14 the whole state is, we're trying to balance the
15 need for transmission versus the need for in-
16 region resources.

17 The, we have some unusual situations,
18 and I'm not a power engineer but I understand
19 enough about power engineering, and we've had
20 people that brief us, we need to have a certain
21 minimum number of, of at least, you know, five to
22 800 megawatt in-region plants for voltage
23 stability and RMR reasons. So obviously, we need
24 to have in-region resources. The question is,
25 outside of the technical requirements, how much

1 more do we need. And, and that's where the
2 transmission comes in.

3 We are very aggressive as far as the
4 regional energy strategy is on renewables, and
5 this I think fits in with the IEPR. We're looking
6 at 15 percent of the total capacity, which would
7 be about 740 megawatts by 2010, 25 percent by
8 2020, and 40 percent by 2030, which would
9 translate to about 2900 megawatts. And we are
10 hoping to achieve 50 percent of this in-region.
11 But in-region means all of San Diego, all of
12 Imperial, and all of Baja, northern Baja
13 California. So it's a very large region that
14 we're talking about. And, and of course, a lot of
15 this is driven by air quality requirements and
16 issues.

17 The plan also calls for an aggressive
18 move on distributing generation, 12 percent of
19 peak demand by 2020, 18 -- I'm sorry, 18 by 2020,
20 and 30 percent by 2030. I mentioned increased
21 transmission capacity. We have a, a goal on
22 electricity demand to reduce per capita
23 electricity peak demand back to 1980 levels.
24 Whether we will achieve that or not, I don't know.
25 And then some other, other things related to the,

1 to natural gas. We also have a goal to reduce
2 natural gas per capita consumption, to reduce it
3 by five percent by 2010, 10 percent by 2020, and
4 15 percent by 2030.

5 So these goals are out there. They're
6 part of the regional comprehensive plan for San
7 Diego. And I think one other question is how do
8 we interface with you to either incorporate them,
9 to have them noted in the IEPR, which I'm assuming
10 will cover our region, obviously. That's one
11 thing that the energy working group would
12 specifically like to know about.

13 In developing our joint plan, as far as
14 this particular hearing today, we saw the numbers
15 that you have for the SDG&E territory, your staff
16 projections and SDG&E's, and we noted that they
17 were very close. We're not going to do a full-
18 blown analysis to try to reproduce our own demand
19 forecast. We don't have the technical
20 capabilities or interest to do that, particularly
21 since the CEC staff and SDG&E are very close.

22 What we want to do is examine the
23 portfolio of resources that make up that demand,
24 in conjunction with the utility. So what the
25 energy working group is doing along with SDG&E is

1 to look at the assumptions that go in to at least
2 SDG&E's forecast -- I don't know how we would get
3 the assumptions as far as your staff's forecasts
4 are concerned -- and then to look to see not so
5 much the final number that comes out, but what is
6 the make-up of resources that lead to that number,
7 and how does that compare with the energy, with
8 the regional energy strategy which was adopted by
9 SANDAG.

10 We're just starting that process. We,
11 we just purchased some software that allows us to
12 do that, and we won't be able to make this IEPR
13 report, but we're looking for 2006, the update,
14 and then the next year, where we would, ideally
15 both SDG&E and the working group through SANDAG,
16 would come with these findings. It's likely we
17 won't agree on a common resource portfolio, but
18 from our original discussions it appears as though
19 the differences are relatively small, because they
20 have a very aggressive renewable RPS goals to
21 meet, as well. And one of the issues, as you
22 know, that we talked about at the last hearing on
23 the border, that if we could include Mexico in
24 the, in the renewable energy credits, and
25 certainly that would make a huge difference.

1 And the last thing I'd like to mention
2 is we will be having a series of workshops, which
3 I will send your staff notices of, and we would
4 like you, if possible, to participate in those.
5 One of those is in this joint planning, and
6 there's another one on renewables, and another one
7 on resource allocation.

8 And the final thing I'd like to mention
9 is, as I've mentioned to you in the past, we have
10 set a date when we plan to release our, our
11 renewable energy study, which encompasses San
12 Diego, Imperial, and Baja California, that's the
13 first or second of August. And I've already been
14 talking to, to one of your staff, Gary Klein,
15 about how we could make that information available
16 to you. And we certainly want that to become part
17 of the IEPR, to the extent that, you know, you
18 have a process that that can be incorporated. But
19 we have detailed now maps and planning for wind,
20 solar, for the region that I mentioned. Certainly
21 San Diego and Imperial, and quite a bit of
22 information for Baja. And that should be of great
23 interest, and that should be ready timing-wise to
24 make it into this, this IEPR process.

25 So that's basically what I have to say.

1 PRESIDING MEMBER GEESMAN: Thank you,
2 Alan. Let me, let me try to respond to the
3 various points you've raised, and, and also pose a
4 couple myself.

5 We will docket your, your renewable
6 study as soon as does become available.

7 MR. SWEEDLER: Okay. We'll send that to
8 you immediately.

9 PRESIDING MEMBER GEESMAN: And we will
10 reflect upon that in the committee draft that
11 should be released in early September.

12 MR. SWEEDLER: Okay. Good timing.

13 PRESIDING MEMBER GEESMAN: Similarly,
14 with respect to the regional energy strategy. I
15 think that the importance of what is going on in
16 the planning process in San Diego is such that our
17 report should both some knowledge of that, and
18 perhaps express some viewpoints as to its
19 practicability or, or the degree to which it
20 serves as a good model for other parts of the
21 state.

22 Along those lines, I just have a certain
23 level of curiosity as to is this a public process
24 that, that you're going through?

25 MR. SWEEDLER: It's fully public. It,

1 all the meetings are noticed, they're open to
2 members of the public. We have quite a bit of
3 public input, actually. We meet at the SANDAG
4 itself. The, the subcommittees, we have two
5 subcommittees. I mentioned the resource
6 subcommittee, which is more technically oriented
7 people. We, we have a lot of talent of people who
8 are willing, you know, power engineers, people who
9 are, are specialists and who are willing to put
10 time into this.

11 The, the resource committee is open to the
12 public, as well. And we have a policy committee
13 where we look, we track, we've tracked every
14 single piece of legislation that is coming out of
15 Sacramento and Washington that's relevant for the
16 work. We discuss should we weigh in on it. You
17 probably will be receiving some letters on various
18 things. We, we weighed in on SB 1, and other
19 things. We backed Chris Kehoe's bill to raise
20 the, the cap for San Diego, which is very
21 important because the numbers we're finding in the
22 renewable study will just burst the cap very
23 quickly.

24 And it's, it's all on the web, all of
25 the minutes, all the notes, there's everything on

1 SANDAG's web page. And we've, we have funding
2 from both SANDAG and SDG&E to hire the San Diego
3 regional office technical staff. So we have
4 capabilities, to some extent. Plus people like
5 myself and others who put in time gratis. Two co-
6 chairs. One is a Mayor of Del Mar, Henry
7 Abarbamel, who's another physicist at UCSD, and
8 the other co-chair is Art Madrid, who's the Mayor
9 of El Cajon. Two elected officials. We have
10 representatives from the beverage and food
11 industry, from QualCom; of course, from SDG&E.
12 The Sierra Club. Department of Health Coalition,
13 Michael Shanes participates.

14 So it's pretty broad-based. And it's,
15 it's highly public, and very visible.

16 PRESIDING MEMBER GEESMAN: And does
17 SDG&E provide this process with data?

18 MR. SWEEDLER: So far. We've had more
19 luck than you have.

20 PRESIDING MEMBER GEESMAN: I guess
21 that's, that's really the, the underlying nature
22 of my question is public data?

23 MR. SWEEDLER: Well, let me say this.
24 They supply us with gross results of, of their, of
25 their output, so, you know, we see the same charts

1 you see. I, I was looking through the San Diego
2 one when I walked in, and I, those curves that for
3 demand forecast. Whether they're going to supply
4 us with the assumptions that go into that, we
5 really don't know yet. We assume they will
6 because they haven't said anything to the
7 contrary. We're working with Rob Anderson, who I
8 think has testified here before. Bill Reed, who's
9 the Senior VP, has been very cooperative, a very
10 active member of the, of the energy working group,
11 and he's also a member of my board on the, the San
12 Diego Regional Energy office.

13 And so far, we've really approached this
14 in a cooperative manner. Now, the rubber maybe
15 hasn't hit the road yet, in the sense that maybe
16 if we start asking them for real details about how
17 they got to their numbers they may begin to claim
18 confidentiality, et cetera. But so far, that
19 hasn't been the case.

20 PRESIDING MEMBER GEESMAN: And they
21 provided you with, with data on both the demand
22 side and the supply side?

23 MR. SWEEDLER: Uh-huh. Yeah.
24 Obviously, we would need that. But they also did
25 that when they were participating in the regional

1 energy strategy, before we had this more formal
2 process now.

3 My observation so far, and I'm perfectly
4 happy to have this on the record, is that they
5 have been quite a good, you might say energy
6 corporate citizen with regard to working on these
7 processes. And I'm, I'm not going to, you know,
8 discuss -- I don't know what they're doing in
9 rates and all that sort of stuff because we don't
10 go into that.

11 But as far -- they seem to believe that
12 it's important for them to have the community
13 backing. Now, how important it is, we'll find out
14 as we proceed here when we, we start really
15 getting into a lot of their, their assumptions.
16 And we're not going to question their rates and go
17 into their, you know, corporate structure,
18 obviously. We don't have any interest, nor is
19 that appropriate.

20 What we want to know is what are the
21 assumptions that go into give these demand
22 forecast numbers, and specifically, how do they
23 come up with a mix of X number of power plants, so
24 many renewables, so much transmission, and are
25 there other ways to, to skin that cat where you

1 still come up with the same demand numbers.

2 PRESIDING MEMBER GEESMAN: And you don't
3 sign confidentiality agreements with them, or --

4 MR. SWEEDLER: We have not done that,
5 and I don't even think we can because it's, it's
6 part of, it's, SANDAG is a public agency and I
7 don't think that -- the last time, this came up a
8 little bit when the question of they were, you
9 know, they're the ones who have the money, so it
10 was natural for the, for the energy working group
11 to approach them, and they were quite open to it.
12 And there were some issues of confidentiality, and
13 I think we decided we wouldn't, we wouldn't sign a
14 confidentiality agreement. And we're given the
15 money to do this work and you're on board like a
16 member of the group.

17 We cost share, and the university puts
18 in quite a bit in terms of cost sharing, time, my
19 staff and myself. The QualCom has contributed
20 significantly in terms of facilities. When Joe
21 Desmond was down we hosted a big event where we
22 talked about -- where the co-chair of the energy
23 working group introduced Joe Desmond and we used
24 QualCom's facilities for that.

25 So that confidentiality issue, as far as

1 I know, I have not been privy to the specific
2 agreements. I can find out if you'd like. As far
3 as I know, the energy working group has not been
4 presented with an issue of confidentiality. And I
5 don't think the group would allow SANDAG to sign
6 something unless the group agreed to it.

7 PRESIDING MEMBER GEESMAN: Well, I think
8 it's a very interesting process, and one that,
9 that I'd like to learn quite a bit more about. As
10 I think you may know, we've had some difficulty on
11 the confidentiality issue in terms of trying to
12 make our process more transparent and more
13 accessible to the public. I agree with, with your
14 assessment and the, the conclusion I believe you
15 attributed to SDG&E that it's important to have
16 community support in these areas. I think that's
17 doubly important at the statewide level, where
18 every issue seems to be so polarized.

19 But I think that the, the foundation for
20 doing that is, is an open, transparent public
21 process. And hopefully, we can learn from
22 whatever example is set there in San Diego how we
23 can better go about doing that in Sacramento.

24 MR. SWEEDLER: I've been involved in
25 energy planning in the San Diego region, and to a

1 less extent the state level, close to 20, 25
2 years, and I can honestly say I, I don't recall a
3 better sort of ambience than exists now between
4 the utility and the community. I'm sure you're
5 aware that at some point, I think it was the
6 eighties, you know, they were taking the logos off
7 the trucks --

8 PRESIDING MEMBER GEESMAN: Right.

9 MR. SWEEDLER: -- because people were
10 shooting at them. And they certainly were not
11 very popular in the early 2000s, during the energy
12 crisis. But it's been quite a, quite a bit of a
13 turn-around. I, I see this at various different
14 levels, too, how they're interacting. And I think
15 that -- again, this is my own personal opinion,
16 but it's based on quite a bit of experience -- I
17 think they've decided it's -- San Diego is big
18 enough to have a lot of significant players but
19 small enough for people, if they do band together,
20 it could be a big headache for them.

21 And it's, it's -- and also, where
22 they're going is not so different from where the,
23 the mainstream energy community is, is heading,
24 too, through these, through the regional energy
25 strategy.

1 PRESIDING MEMBER GEESMAN: Shouldn't
2 that be the case with every utility?

3 MR. SWEEDLER: Maybe when you get to
4 such a big level as the state or SCE or PG&E
5 level, you have so many different special
6 interests you just can't even get them in the same
7 room, or -- I don't know. I would love to see
8 that, of course, and if -- I don't know what we
9 have uniquely that we could contribute to that
10 except to put out on the table the institutional
11 processes that have been developed. But, of
12 course, a lot of it has to do that the utilities,
13 maybe because it's a relatively small utility,
14 compared to the others, that -- and it, it's a
15 relatively small utility in a moderately sized
16 region, so there's a little bit of a balance of
17 power there.

18 It would be interesting to -- at, at
19 public seminars I've been to, I think Commissioner
20 Boyd has been to some the Institute of the
21 Americas Seminars where at least Sempra, which is
22 the parent company, has talked about -- well, a
23 lot of companies talk about the need to cooperate,
24 but I think we're starting to see this actually be
25 translated now.

1 COMMISSIONER BOYD: Alan, I always
2 thought it had to do with the island of San Diego
3 syndrome, and I --

4 MR. SWEEDLER: Well, I don't know how
5 much of an island -- you know, energy, you can't
6 have an energy island. You know, you really need
7 to talk about global issues when you talk about
8 energy, all the oil, natural gas, and now with the
9 LNG and electricity. But there is a south of
10 southern California mentality. And there is a
11 sense, and this is probably due to the geography,
12 that Camp Pendleton insulates San Diego from the
13 sprawl of Orange County. There is a sense that
14 San Diego doesn't get its due hearing at the state
15 and federal level. So, you know, you hear this
16 all the time. And --

17 COMMISSIONER BOYD: We contribute to it
18 sometimes.

19 MR. SWEEDLER: You contribute to it. So
20 there's a little bit, we have a common interest
21 here. Both the, the public and the utility, we
22 have some common goals. And one of the goals,
23 quite frankly, and I don't think there's anything
24 wrong with stating this publicly, is we want to
25 get as much state money back into San Diego as

1 possible.

2 So to do that, we've taken a conscious
3 decision in, in the regional energy policy
4 advisory council, to try to not to go to
5 Sacramento piece-meal, the utility coming,
6 business people, local governments, everybody
7 coming with different, because then it's the body
8 -- so the whole point of these exercises is that
9 we would put together some sort of organized
10 process. Maybe that mentality is harder to, to
11 develop in the SCE and PG&E territory, it's so
12 huge. That could be one reason. It's just
13 speculation.

14 PRESIDING MEMBER GEESMAN: Well, thank
15 you for your presentation, and I do look forward
16 to, to following your process quite closely.

17 MR. SWEEDLER: Good. And I, and I hope
18 when we give you the, the dates of these
19 workshops, you'll be able to fit it into your
20 schedule.

21 PRESIDING MEMBER GEESMAN: It's been a
22 very active --

23 MR. SWEEDLER: We would, the committee
24 specifically requested that I reiterate that.

25 PRESIDING MEMBER GEESMAN: And we would

1 like to participate.

2 MR. SWEEDLER: Okay. Thank you very
3 much.

4 COMMISSIONER BOYD: Alan, before you get
5 away, take advantage of your being here just to
6 ask you if there's anything new in the border
7 interview issues group arena that affects what
8 we've talked about here today.

9 MR. SWEEDLER: Well, one thing we're
10 talking about, we're discussing how we will
11 incorporate, or mesh the border energy issues
12 group with the energy working group. And that
13 meaning I have a meeting with the chairs of both
14 committees and the executive director of SANDAG, I
15 think in two weeks, to talk about how we relate
16 these two things together.

17 Certainly the border chapter of the
18 IEPR, I just met with your staff about that here,
19 of how to interface that information. But you and
20 I have had conversations about that. The,
21 there's, there's nothing since the last time we
22 spoke that has emerged in the border energy
23 issues, who hasn't met since the last time, that
24 has, would impact the IEPR. The only thing that
25 would really impact the IEPR is the renewables

1 border, the renewables Baja chapter in the
2 renewables energy study, but you'll have that.
3 And that to me, it seems, would be a relevant part
4 for the border chapter.

5 I think one of the challenges is going
6 to be for your staff, and I think there's going to
7 be overlap, the renewables study that we've done
8 is in San Diego and Imperial, which we would like
9 to see as part of the main California IEPR, as
10 well as as it relates to the border, but it, it
11 shouldn't just be only in the border section. And
12 it makes sense for -- but there may be some
13 natural overlap. But the chapter on Baja
14 California could very well, you know, be an
15 integral part of the, of the border chapter, per
16 se.

17 PRESIDING MEMBER GEESMAN: Thanks.

18 MR. SWEEDLER: Okay. Thank you very
19 much.

20 PRESIDING MEMBER GEESMAN: Okay. Are we
21 -- SMUD?

22 MS. MARSHALL: We can do SMUD. Thank
23 you, yeah.

24 We have a representative from SMUD here,
25 too.

1 PRESIDING MEMBER GEESMAN: Good.

2 MS. MARSHALL: Do you want to start?

3 MR. GORIN: Sure. Our, the SMUD
4 forecast is a lot higher than the old one. It
5 seems that DOF wants to put everybody in
6 Sacramento County, and there's a lot more, more
7 growth projected than there was in the past. The
8 economy.com forecast for the county is, is higher
9 than what we had that, what the UCLA forecast
10 yielded. So we're bullish on Sacramento County
11 right at the moment in both energy and peak.

12 The per capita consumption is slightly
13 higher, but not all that much different. Per
14 capita peak goes up a little bit, still relatively
15 constant. The load factor is declining. SMUD's
16 load factor in the mid-nineties declined fairly
17 substantially. We don't foresee a decline of that
18 magnitude, but there's still, you know, more air
19 conditioning going in.

20 This is where the difference is between
21 our forecast this time and last time, it's in our
22 residential sector. Use per household goes up
23 because of increasing income and increasing
24 household, persons per household. The new
25 population forecast is, the difference is probably

1 greater than any of the other service areas. Even
2 with a slight decline in persons per household you
3 get noticeably more households than we had in the,
4 for the 2003 forecast. And likewise, the
5 household income is higher, which drives
6 residential consumption up.

7 Commercial forecast, and basically the
8 non-residential forecasts are basically the same.
9 Commercial building peaks up because of -- we had
10 actual sector level consumption load profiles to
11 calibrate to that SMUD provided us. Commercial
12 floor space increased over our last forecast, but
13 with declining use per square foot you come out
14 with the same forecast, basically.

15 Industrial goes up a little, but it's
16 basically from a increased starting point. You
17 can see the prior starting point was off of a huge
18 drop in 2001, and there was some indication, some
19 thought that that was going to continue to
20 decline, but it seems to have turned around a
21 little bit, or flattened out. And the peak is
22 lower due to the sector load profile calibration
23 for SMUD.

24 There's a large difference in what the
25 pattern of decline was for value of shipments

1 versus value added, but basically the use per
2 value added is projected to remain constant,
3 rather than decline. These sectors don't
4 contribute a whole lot to the overall SMUD
5 forecast. And the prices are just like everybody
6 else's.

7 We compared our forecast to SMUD's, and
8 through 2008 they're similar. And our forecast,
9 the staff forecast then increases to where we're,
10 at the end of the forecast period, about four
11 percent higher than the SMUD forecast.

12 PRESIDING MEMBER GEESMAN: But you're
13 higher in residential and lower in non-residential
14 than SMUD?

15 MR. GORIN: No, we're higher in
16 residential and about the same in non-residential,
17 if I, if I remember right. So our, our -- our
18 forecast grows at a slightly higher rate than the
19 SMUD forecast. And it's primarily due to
20 differences in the residential forecast.

21 PRESIDING MEMBER GEESMAN: And what do
22 you attribute those differences to?

23 MR. GORIN: Household projections and
24 income projections.

25 PRESIDING MEMBER GEESMAN: Household

1 projections, it looks like you and SMUD are about
2 the same. Number of households, rather.

3 MR. GORIN: Well, that's true. Ours, at
4 the, toward the end of the forecast period ours go
5 up at a higher rate.

6 PRESIDING MEMBER GEESMAN: Okay.

7 MR. GORIN: And we're both different
8 than the SACOG projections. One of the things
9 that we backed out of the comparisons is that SMUD
10 has a projected decline in persons per household,
11 so if we have the same number of households then
12 they would have less people in them. But I think,
13 and a SMUD representative is here, he can correct
14 me if I'm wrong, they, they're using a method, an
15 econometric method of customers and kilowatt hours
16 per customer to make their projections.

17 PRESIDING MEMBER GEESMAN: So that gets
18 away from the persons per household sensitivity?

19 MR. GORIN: I think so. And they're
20 projecting a relatively constant use per
21 household, and we're projecting an increasing use
22 per household.

23 PRESIDING MEMBER GEESMAN: Do you have
24 similar assumptions about personal income?

25 MR. GORIN: I'm not sure.

1 MS. MARSHALL: Well, they also use
2 Global Insight, don't they?

3 MR. GORIN: Nate, do you want to address
4 these questions?

5 PRESIDING MEMBER GEESMAN: I can hold
6 them until he gets up for his presentation.

7 MR. GORIN: Okay.

8 PRESIDING MEMBER GEESMAN: Let me just
9 kind of summarize. Do you have a, a explanation
10 as to what you think accounts for the difference
11 in residential consumption?

12 MR. GORIN: In use per household?

13 PRESIDING MEMBER GEESMAN: Yes.

14 MR. GORIN: I think, I think our income
15 per household is increasing at a level that drives
16 the forecast up. If you look -- there's also an
17 assumption on our part that there's slightly more
18 people in those houses and that both of those
19 would drive miscellaneous consumption up, so you
20 get an increase in use per household. One of the
21 maybe drawbacks to using the method that we're
22 using is we assume that persons per household and
23 income have the same impact on miscellaneous
24 residential consumption, no matter what service
25 area you're in. And sometimes it's higher than

1 the utility and sometimes it's lower than the
2 utility. So I, I think that's what drives a lot
3 of the difference.

4 PRESIDING MEMBER GEESMAN: Okay.

5 MR. GORIN: We actually have a slightly
6 lower commercial forecast. There's some
7 differences in the historic estimates of square
8 footage, but the forecast of the square footage is
9 relatively the same. Our forecast grows at a
10 slightly higher rate, but then we have a decline
11 use per square foot, so that will give us a lower
12 forecast.

13 PRESIDING MEMBER GEESMAN: Do they not
14 have a --

15 MR. GORIN: Well, this is a -- SMUD is
16 assuming an increase in use per square foot.

17 PRESIDING MEMBER GEESMAN: Okay.

18 MR. GORIN: And ours declines slightly.
19 Maybe not as much as in some other service areas,
20 due to the assumed mix of building types. And
21 that's it.

22 I don't know if the SMUD representative
23 wants to make a presentation.

24 PRESIDING MEMBER GEESMAN: Yeah, why,
25 why don't we hear from him.

1 MR. GORIN: Come up here, Nate.

2 That one doesn't have a mic on it.

3 MR. TOYAMA: Yeah, I don't have a
4 prepared presentation --

5 PRESIDING MEMBER GEESMAN: That's okay.

6 MR. TOYAMA: -- in terms of power point
7 productions, power point slides. I just have a
8 couple of comments on what, what's discussed here,
9 and maybe this could be somewhat of a dialogue
10 instead of a presentation, per se.

11 I, I think what -- well, just looking at
12 this document that was here, that the differences
13 really tend to be methodological in terms of how
14 we prepare our forecast. For example, you talked
15 about income, you talked about floor space. Much
16 of this information from SMUD's side goes into the
17 input assumptions, in terms of how our customer
18 class grows.

19 The energy use information is strictly
20 statistical, in the sense that we look at our, our
21 billing records, we look at our load growth, our
22 EMS statistics, which are our hourly load at the
23 system level. And we looked at how each of our
24 load on a per customer basis grows over time. And
25 what we try to do is pick up the marginal changes

1 for the -- that's embedded in the historical data.
2 Once we establish that historical relationship
3 and, in particular, trying to pick up the marginal
4 changes, we tend to carry those out and flatten
5 the overall assumptions, for example, in
6 residential use per household, residential use per
7 customer, and the, our commercial, small
8 commercial, large commercial, industrial
9 commercial classes. And so you don't see the
10 variations that you observed in the forecast that
11 Tom has.

12 And I'm not up to speed on exactly how
13 the staff uses their modeling technique, but I
14 presume it's similar to the way it was done back
15 in the eighties and nineties under the old CFM
16 format. You know, once again, it's primarily
17 statistical in nature, and our interest is really
18 to pick up the year to year changes that we
19 observe and the most recent history, and try to
20 project what will occur over the next couple of
21 years. And, in part, this is not only due to
22 methodology but it's actually due to probably what
23 our purpose for our forecasts are.

24 At SMUD, we really have a short-term
25 forecast. We extend it on a long-term basis. But

1 the nature of the forecast and the methods we use,
2 which is primarily econometric, really picks up
3 the short-term changes. And our interest, of
4 course, is looking at the next two to three years.
5 And that's, for that purpose, we're looking at
6 trying to really look at how our risk management
7 budget fits into our overall budget. And by doing
8 so, we try to pick up that most recent trend and
9 to project out no more than three to four years.
10 And what that gives us is some idea of what really
11 our short-term positions are, in terms of capacity
12 and energy. And as a planning group, that's our
13 emphasis, is a two to three-year plan.

14 In terms of long-term plan, we --
15 actually, I'm surprised that we're so very close,
16 four percent difference over the long term that's
17 just going out to 2016. It doesn't seem to be a
18 horrendous difference at all.

19 PRESIDING MEMBER GEESMAN: So you don't
20 think we should be concerned with with --

21 MR. TOYAMA: Sorry?

22 PRESIDING MEMBER GEESMAN: You don't
23 think we should be concerned with a difference of
24 that small magnitude?

25 MR. TOYAMA: Well, I wouldn't be

1 concerned about that kind of difference that for a
2 forecast that goes out to 216. In the short term,
3 or the medium term, up to 2008 or 2010, we seem to
4 be relatively close. And for our purposes, that's
5 probably coincidental, but I look at that as being
6 very fortunate that at least we agree with what
7 Tom has done.

8 PRESIDING MEMBER GEESMAN: Okay.

9 MR. TOYAMA: Over the long term, I bet
10 the question is how do we plan our resources and
11 what are our major interest in planning our
12 resources. Because SMUD is a summertime, summer
13 peaking utility, our interest, in terms of what we
14 purchase on a long-term basis or what we bill,
15 really fits into the baseload intermediate load
16 type of category. That's what we're planning for,
17 and that's what we try to, on our cost, cost
18 effectiveness basis, try to look at what are the
19 best resources that we're going to purchase on a
20 long-term basis, either being seven by 24 or six
21 by 16 type contracts, or what we're trying to
22 build in terms of baseload, intermediate load, and
23 perhaps some addition to our peaking facilities.

24 That extra growth that we observed in
25 the CEC forecast, in terms of energy and also in

1 capacity, well, we're more interested in the
2 capacity process of that. But that's something
3 that we don't really plan for on more than a two
4 to three year basis. Our capacity, in terms of
5 our peak load, as well as our resource adequacy is
6 all done on the market. And so when we're looking
7 to provide for our customers for the 100-plus day
8 temperatures, as well as for a two to three-day
9 heat wave, we're really looking at a market
10 product. And that we're going to buy capacity
11 options, primarily, for the summertime, no more
12 than five months out.

13 And so our emphasis really is looking at
14 what that load duration curve looks like over the
15 next two to three years, and not over the long
16 term horizon. Over the long term horizon, you
17 know, one observation of the differences in the
18 load characteristics is that, or the sales
19 specifically for residential, is that we, the
20 increase in the load per household -- that's what
21 it is, load per household -- we haven't observed
22 that.

23 What we observe in our service
24 territory, at least looking at the more recent
25 building data, is actually a fairly modest

1 increase in the use per household. We tend not to
2 look at the use for household per household per
3 capita like Tom does. We strictly look at
4 household, use per household. And what we have
5 found is that the new houses that are built under
6 the Title 24 and the most recent building
7 standards, both state, federal, as well as SMUD
8 advantage homes, looks very encouraging in the
9 sense that we look at a relatively small growth in
10 the use per customer. In fact, we look at a
11 relatively small growth in the use per customer.
12 In fact, we look at a relatively stable use in
13 terms of the aggregate.

14 And, of course, this is something that
15 we observe now. If we observe something different
16 statistically, then we would make that difference,
17 or we would make that change. But right now, we
18 don't see that at all. In fact, we looked at the
19 new homes, and for the incremental growth in the
20 new homes and incremental sales to these homes,
21 and it's, it looks so good statistically. It uses
22 about two-thirds of what a household that was
23 built back in the nineties and eighties would use.

24 So --

25 PRESIDING MEMBER GEESMAN: Yeah. I

1 think if, if I could put words into the staff's
2 mouth, because their residential consumption is
3 driven by income, I think implicitly, particularly
4 as you get out to the end of the forecast period,
5 the growth that they're projecting probably
6 depends upon some phantom appliance, or some new
7 toy or device that people don't currently use in
8 large numbers, that they are, by implication,
9 assuming that the growing income will, will be
10 utilized.

11 MR. TOYAMA: I would say that off the,
12 just from the discussion here, that's probably
13 what's happening. We don't, of course, we don't
14 use income as a driver in our econometric model.
15 We use income more or less in helping us develop
16 how many households will be being built over time.
17 And if there is an income use or income effect,
18 then we would obviously observe that.

19 Now, that may have been true -- well, we
20 certainly observed that during the sixties and
21 seventies. During the nineties and 2000 period,
22 we don't really observe that yet. And that may
23 well be that the efficiency standards of even new
24 appliances outweighs the, the growth in the number
25 of appliances that we happen to have, both the new

1 residential home, and on the replacement market.

2 PRESIDING MEMBER GEESMAN: Uh-huh.

3 MR. TOYAMA: So, but I think it's a
4 valuable exercise that both of us go through.
5 The, and specifically the type of exercise that
6 the CEC typically uses is valuable, because we
7 don't look at those factors that the CEC uses.
8 And as a collaborative process, it's something
9 that we may look at, may look at in the future.

10 You know, unfortunately, my experience
11 with the CEC and my knowledge of the CEC models
12 is, is very dated. You know, I'm only familiar
13 with what was done during the eighties, and not
14 necessarily in the nineties and the 2000 period.
15 So, but --

16 PRESIDING MEMBER GEESMAN: Well, your
17 comments have been very helpful, and I, I do think
18 that you've been quite informative about the way
19 in which SMUD goes about deploying its econometric
20 model at a nearer term time horizon than we do.
21 And I think that one of the things that we
22 sometimes slip into is what I would characterize
23 as mis-applying our model to the nearer term time
24 horizon. I think we're in need of, of tools such
25 as, as you and the other utilities use to better

1 capture those closer in effects.

2 MR. TOYAMA: Well, that's, that's true.

3 We, you know, I, I think the main thing is that
4 when we look at what we're trying to accomplish,
5 our, our main priority is really the short term.

6 And I think we capture that in our statistical
7 models. The long term, it tells us something
8 about the way the area is growing, the way that
9 households are consuming and what they're buying.

10 But I think that on one hand, the time and effort
11 that we have to do that type of study is, is very
12 limited and very thin, so we tend not to do that
13 type of work.

14 But I think that when we look at those,
15 that type of information, and as we think the way
16 that the policy will be developed, that's where
17 that type of model comes into play. It's a
18 policy-driven type of exercise that allows us to
19 look at the various saturations, the various usage
20 per appliance in the future, and it's something
21 that we -- someone has to do it, and I'm certainly
22 glad the CEC is devoted to doing that type of
23 detailed end-use type of work.

24 And so, and looking at this forecast,
25 these are things that we'll look at in the future.

1 The other part of this is that, is also our energy
2 efficiency forecast, too, and the way that we try
3 to incorporate energy efficiency into our
4 forecast. And we don't do a, we don't go directly
5 into model, it's more of a afterthought in terms
6 of how we adjust our forecast for the future. But
7 that's the other thing that we pick up in our
8 forecast, is a marginal efforts on utility side
9 energy efficiency.

10 And so we think that it sort of helps us
11 confirm our notion that the growth in the energy
12 sales per customer will not increase like that.
13 We think that it'll stay relatively stable. At
14 most, it will stay relatively stable. Perhaps if
15 we're lucky it'll decline over time and give us
16 some additional savings that we can count as a
17 resource for our portfolio.

18 PRESIDING MEMBER GEESMAN: That probably
19 reinforces your board's commitment to those
20 programs, as well.

21 MR. TOYAMA: Well, you know, it's part
22 of our commitment, because I know that we're going
23 forward, as well, like the IOUs, in terms of
24 developing incremental energy efficiency for those
25 that we believe that are cost effective, which

1 will be beyond, of course, our, our current public
2 goods energy efficiency efforts. And this is
3 something that we're continually doing now, and so
4 we think that the world of efficiency, energy
5 efficiency in Sacramento looks pretty good. We
6 give it a good value, we promote it, and I think
7 that, in general, it, it keeps our forecasts in
8 check in terms of the growth in our sales, both at
9 the residential side and at the non-residential
10 side.

11 PRESIDING MEMBER GEESMAN: Well, thank
12 you very much. Your, your comments have been
13 extremely helpful to us.

14 MR. TOYAMA: All right.

15 PRESIDING MEMBER GEESMAN: Do we have
16 anything else on our agenda today?

17 MR. GORIN: We have a handout from BGP,
18 but we would be willing to just let you read it.

19 PRESIDING MEMBER GEESMAN: I think, I
20 think that would be sufficient, but -- unless
21 there's anybody here from Burbank, Glendale, or
22 Pasadena that would like to go through the
23 presentation.

24 I think we'll, we'll simply take that
25 into the, the docket in writing.

1 Any members of the public care to
2 address us?

3 Okay. Thank you very much. A very
4 successful day.

5 (Thereupon, the California Energy
6 Commission Committee Hearing on
7 Natural Gas Demand Forecast was
8 adjourned at 2:44 p.m.)

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